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Office of Fissile Materials Disposition
SPD EIS
P. O. Box 23786
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COMMENTS ON SURPLUS PLUTONIUM DISPOSITION ENVIRONMENTAL IMPACT STATEMENT & COST REPORT

I. *EIS Inadequacies*

- Appendix N, Plutonium Polishing, shows that an aqueous process can purify plutonium and produce plutonium oxide with very little waste. Since dissolving plutonium metal is easier than dissolving plutonium oxide, it stands to reason that direct dissolving of pits is a reasonable alternative. The alternative of dissolving pits using a facility and process similar to that described in Appendix N must be included and assessed versus the proposed dry process for pit conversion to have a valid NEPA document. 1

- The frequency, consequence, and risk of airplane crashes into plutonium facilities at Pantex has been changing in each document issued by DOE. It seems that these risks have been declining because DOE has been finding ways to justify less conservative methodologies. DOE should use the standard NRC methodology (NUREG 0800) for calculating the risk associated with an airplane incident. This is the only widely accepted methodology in this country for analysis of nuclear facilities subject to airplane crashes. 2

- The Nuclear Weapons and Material Monitor reported that there was an Appendix B which evaluated an aqueous alternative for pit conversion and concluded that it could be done faster and used proven technology. This option cannot be withheld from the EIS. 3

- The EIS claims that the proposed dry process for pit conversion produces less waste. This is truly puzzling. There is no data in the EIS to support this claim. Appendix N shows aqueous processes can be operated to produce very little waste. 4

- If you used an aqueous process to make pure plutonium oxide, there would be big savings in the cost and environmental impact of both the MOX and immobilization plants. The plants could be smaller, less automated, and much less R&D would be required. The choice of 5

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MD131–1 Plutonium Polishing and Aqueous Processing

DOE determined that aqueous processing was not a reasonable alternative for pit conversion because current aqueous processes using existing facilities would produce significant amounts of waste, and aqueous processing would complicate international safeguard regimes. Dry processing was analyzed in the *Storage and Disposition PEIS* and this SPD EIS. DOE is currently demonstrating the dry plutonium conversion process as an integrated system at LANL. This activity is described in the *Pit Disassembly and Conversion Demonstration EA* (DOE/EA-1207, August 1998), which is available on the MD Web site at http://www.doe-md.com. There is no alternative in this SPD EIS that evaluates dissolving pits.

DOE is not including the plutonium-polishing process (a small-scale aqueous process) as part of the pit conversion facility; that process would be part of the MOX facility. DOE would use only dry processes in the pit conversion facility. For this reason, the thermal process for removing gallium may not be needed in the pit conversion facility (see revised Section 2.4.1.2). Plutonium dioxide is the starting form for the disposition of surplus plutonium for either the immobilization or MOX fuel approach.

On the basis of public comments received on the SPD Draft EIS, and the analysis performed as part of the MOX procurement, DOE has included plutonium polishing as a component of the MOX facility to ensure adequate impurity removal from the plutonium dioxide. Appendix N was deleted from the SPD Final EIS, and the impacts discussed therein were added to the impacts sections presented for the MOX facility in Chapter 4 of Volume I. Section 2.18.3 was also revised to include the impacts associated with plutonium polishing.

MD131–2 Facility Accidents

DOE published a standard to address the issue of aircraft crash analysis entitled, *Accident Analysis for Aircraft Crash Into Hazardous Facilities* (DOE-STD-3014-96, October 1996). DOE was cognizant of NRC NUREG-0800 in its development of DOE-STD-3014. The method outlined in DOE-STD-3014 is the one used for this SPD EIS. Estimated frequencies, consequences, and risks of aircraft crashes depend on a number of factors, such as building size

and shape; building robustness; and the quantity, form, and containment characteristics of the hazardous material. As a result, one would not expect to see the same numbers published for differing applications of the same methodology, namely, that of DOE-STD-3014. The frequency of aircraft crashes into a pit conversion or MOX facility is lower than that of crashes into the entirety of Zone 4 or Zone 12 mainly because the facilities are smaller than the zones.

MD131–3 Plutonium Polishing and Aqueous Processing

This comment is addressed in response MD131–1.

MD131–4 Waste Management

The *Storage and Disposition PEIS* evaluated an aqueous plutonium conversion process similar to that used in the SRS canyons. A plutonium conversion process is needed to convert plutonium metal to an oxide for use in either the immobilization or MOX facility. Compared with the dry conversion processes evaluated in this SPD EIS for use in the pit conversion and immobilization facilities, the aqueous conversion process evaluated in the PEIS would generate significantly more radioactive waste as shown below:

Type of Waste (m^3/yr)	PEIS Plutonium Conversion	SPD EIS	
		Pit Conversion	Immobilization
LLW	1,799	60	81
Mixed LLW	191	1	1
TRU	472	18	95

MD131–5 Plutonium Polishing and Aqueous Processing

Although cost will be a factor in the decisionmaking process, this SPD EIS contains environmental impact data and does not address the costs associated with the various alternatives. A separate cost report, *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998), which analyzes the site-specific cost estimates for each alternative, was made available around the same time as

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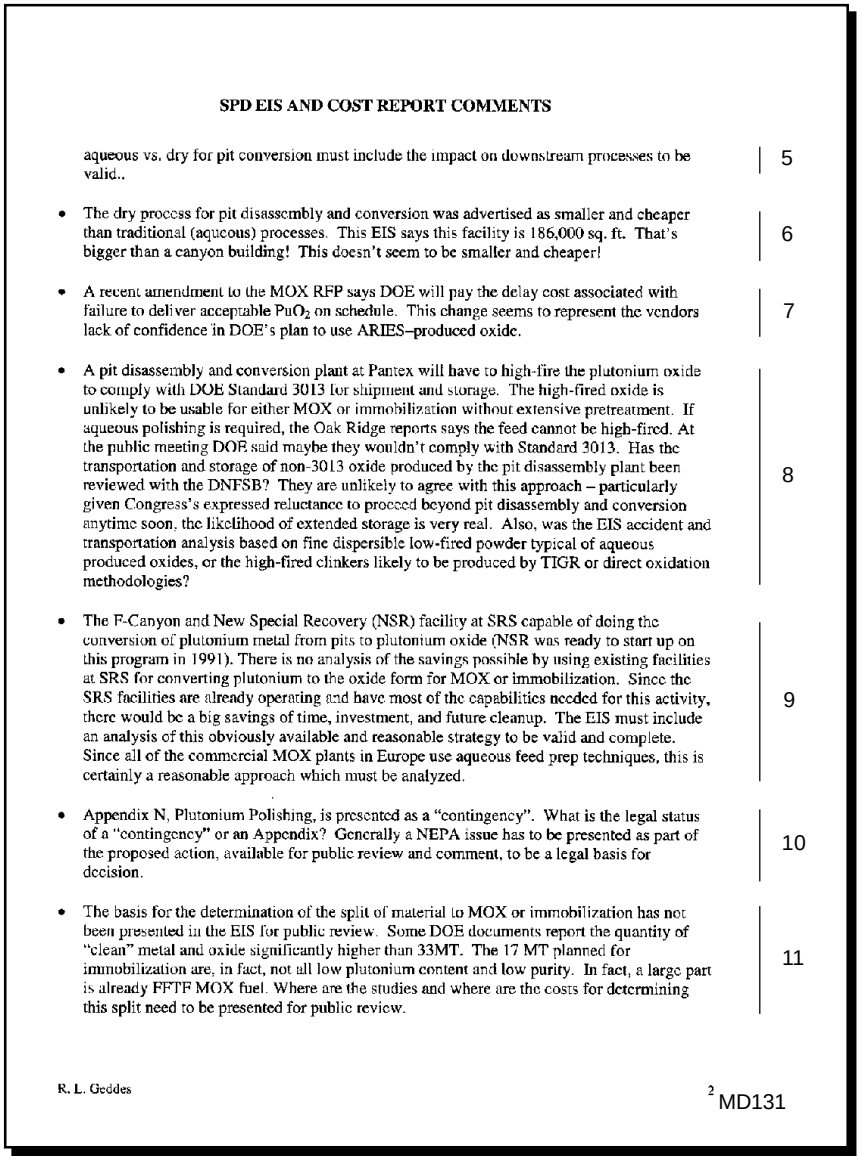

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aqueous vs. dry for pit conversion must include the impact on downstream processes to be valid.. | 5

- The dry process for pit disassembly and conversion was advertised as smaller and cheaper than traditional (aqueous) processes. This EIS says this facility is 186,000 sq. ft. That's bigger than a canyon building! This doesn't seem to be smaller and cheaper! | 6
- A recent amendment to the MOX RFP says DOE will pay the delay cost associated with failure to deliver acceptable PuO_2 on schedule. This change seems to represent the vendors lack of confidence in DOE's plan to use ARIES–produced oxide. | 7
- A pit disassembly and conversion plant at Pantex will have to high-fire the plutonium oxide to comply with DOE Standard 3013 for shipment and storage. The high-fired oxide is unlikely to be usable for either MOX or immobilization without extensive pretreatment. If aqueous polishing is required, the Oak Ridge reports says the feed cannot be high-fired. At the public meeting DOE said maybe they wouldn't comply with Standard 3013. Has the transportation and storage of non-3013 oxide produced by the pit disassembly plant been reviewed with the DNFSB? They are unlikely to agree with this approach – particularly given Congress's expressed reluctance to proceed beyond pit disassembly and conversion anytime soon, the likelihood of extended storage is very real. Also, was the EIS accident and transportation analysis based on fine dispersible low-fired powder typical of aqueous produced oxides, or the high-fired clinkers likely to be produced by TIGR or direct oxidation methodologies? | 8
- The F-Canyon and New Special Recovery (NSR) facility at SRS capable of doing the conversion of plutonium metal from pits to plutonium oxide (NSR was ready to start up on this program in 1991). There is no analysis of the savings possible by using existing facilities at SRS for converting plutonium to the oxide form for MOX or immobilization. Since the SRS facilities are already operating and have most of the capabilities needed for this activity, there would be a big savings of time, investment, and future cleanup. The EIS must include an analysis of this obviously available and reasonable strategy to be valid and complete. Since all of the commercial MOX plants in Europe use aqueous feed prep techniques, this is certainly a reasonable approach which must be analyzed. | 9
- Appendix N, Plutonium Polishing, is presented as a "contingency". What is the legal status of a "contingency" or an Appendix? Generally a NEPA issue has to be presented as part of the proposed action, available for public review and comment, to be a legal basis for decision. | 10
- The basis for the determination of the split of material to MOX or immobilization has not been presented in the EIS for public review. Some DOE documents report the quantity of "clean" metal and oxide significantly higher than 33MT. The 17 MT planned for immobilization are, in fact, not all low plutonium content and low purity. In fact, a large part is already FFTF MOX fuel. Where are the studies and where are the costs for determining this split need to be presented for public review. | 11

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the SPD Draft EIS. This report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, are available on the MD Web site at http://www.doe-md.com and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C. This new report includes the cost associated with plutonium polishing in the estimates for the MOX facility.

The remainder of this comment is addressed in response MD131–1.

MD131–6 Pit Disassembly and Conversion

The space needed for the dry process is expected to be smaller than that needed for the aqueous process. The estimated maximum floor space required for the proposed pit conversion facility using the dry process is approximately 8,055 m^2 (186,700 ft^2) for Pantex. The canyons at SRS are much larger than the proposed pit conversion facility. The footprint alone of F-Canyon is over 23,876 m^2 (257,000 ft^2). If one were to add up all of available floor space throughout the building, it would be over 464,515 m^2 (500,000 ft^2).

MD131–7 MOX RFP

The failure or delay of DOE to deliver plutonium dioxide to the contractor according to schedule would require the contractor to supply its mission reactors with replacement LEU fuel at increased costs. This amendment to the RFP is for the protection of the contractor, regardless of the source of the delay in providing the plutonium dioxide.

MD131–8 Pit Disassembly and Conversion

It is not certain that plutonium dioxide would have to be high-temperature fired prior to shipment and storage to meet the DOE 3013 standard, *Criteria for Preparing and Packaging Plutonium Metals and Oxides for Long-Term Storage*. High-temperature-fired dioxide can be used for either the immobilization or MOX approach; it just does not dissolve as readily as material that has not been subjected to the higher temperatures. The report to which the commentor may be referring, *Final Data Report Response to*

the Draft Surplus Plutonium Disposition Environmental Impact Statement Data Call for Generic Site Add-On Facility for Plutonium Polishing (ORNL/TM-13669, June 1998) indicates that it is better not to subject the plutonium dioxide to the higher-temperature processing, but does not indicate that plutonium dioxide processed at higher temperatures is unacceptable as feed for either immobilization or MOX fuel fabrication. The transportation analysis assumes the oxides would be in compliance with the DOE 3013 standard.

The remainder of this comment is addressed in response MD131–1.

MD131–9 Plutonium Polishing and Aqueous Processing

Use of F-Canyon at SRS to convert plutonium for use in either the immobilization or MOX facility would require reconfiguring the canyon and keeping it in operation for another 10 years or more. DOE has already made a commitment to the public, the U.S. Congress, and DNFSB to shut the canyon down. DOE presented the SRS Chemical Separation Facilities Multi-Year Plan to Congress in 1997. This plan provides the DOE strategy for the expeditious stabilization of SRS nuclear materials in accordance with DNFSB Recommendation 94-1, and provides for the early stabilization of certain limited quantities of plutonium materials from RFETS. Once this stabilization effort was complete, the canyon would be shut down and D&D activities would begin. In addition, this process would make the surplus material considerably more weapons-usable, and as such would not fulfill the purpose and need of the proposed action.

The remainder of this comment is addressed in response MD131–5.

MD131–10 Plutonium Polishing and Aqueous Processing

CEQ regulations for NEPA in 40 CFR 1502.18 state that an appendix shall: (a) consist of material prepared in connection with an EIS (as distinct from material which is not so prepared and which is incorporated by reference); (b) normally consist of material which substantiates any analysis fundamental to the EIS; (c) normally be analytic and relevant to the decision to be made; and (d) be circulated with the EIS or be readily available on request. In accordance with CEQ regulations, lengthy technical discussions of modeling

methodology, baseline studies, or other work are best reserved for an appendix. In other words, if technically trained individuals are the only ones likely to understand a particular discussion, then that discussion should be included as an appendix, and a plain language summary of the analysis and conclusions of that technical discussion should be included in the text of the EIS.

MD131–11 **DOE Policy**

The quantities and locations of surplus weapons-grade plutonium material are discussed in Chapter 1 of the *Storage and Disposition PEIS*. As shown in Section 2.2.1 of the PEIS, Hanford had 11 t (12.1 tons) of plutonium material, of which only about 4 t (4.4 tons) fell within the scope of weapons-usable plutonium as defined in the document. The *Storage and Disposition PEIS* ROD determined that DOE would immobilize at least 8 t (9 tons) because it was not suitable for MOX fuel fabrication due to the complexity, timing, and cost that would be involved in purifying these materials. As described in this SPD EIS, DOE identified an additional 9 t (10 tons) of plutonium as unsuitable for the same reasons. For analysis purposes, this EIS assesses the environmental impacts of implementing the hybrid approach (immobilizing 17 t [19 tons] of surplus plutonium and using 33 t [36 tons] for MOX fuel) and immobilizing all 50 t (55 tons) of surplus plutonium.

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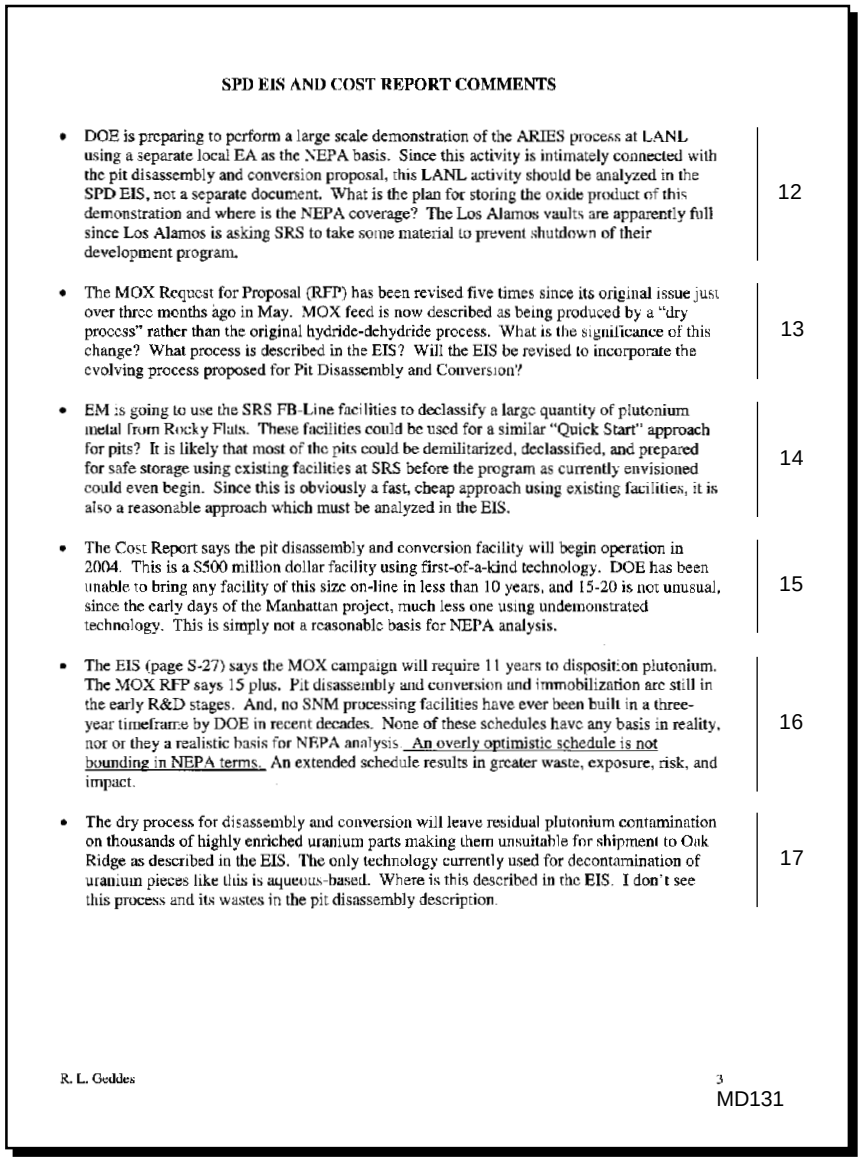

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- DOE is preparing to perform a large scale demonstration of the ARIES process at LANL using a separate local EA as the NEPA basis. Since this activity is intimately connected with the pit disassembly and conversion proposal, this LANL activity should be analyzed in the SPD EIS, not a separate document. What is the plan for storing the oxide product of this demonstration and where is the NEPA coverage? The Los Alamos vaults are apparently full since Los Alamos is asking SRS to take some material to prevent shutdown of their development program. 12

- The MOX Request for Proposal (RFP) has been revised five times since its original issue just over three months ago in May. MOX feed is now described as being produced by a "dry process" rather than the original hydride-dehydride process. What is the significance of this change? What process is described in the EIS? Will the EIS be revised to incorporate the evolving process proposed for Pit Disassembly and Conversion? 13

- EM is going to use the SRS FB-Line facilities to declassify a large quantity of plutonium metal from Rocky Flats. These facilities could be used for a similar "Quick Start" approach for pits? It is likely that most of the pits could be demilitarized, declassified, and prepared for safe storage using existing facilities at SRS before the program as currently envisioned could even begin. Since this is obviously a fast, cheap approach using existing facilities, it is also a reasonable approach which must be analyzed in the EIS. 14

- The Cost Report says the pit disassembly and conversion facility will begin operation in 2004. This is a $500 million dollar facility using first-of-a-kind technology. DOE has been unable to bring any facility of this size on-line in less than 10 years, and 15-20 is not unusual, since the early days of the Manhattan project, much less one using undemonstrated technology. This is simply not a reasonable basis for NEPA analysis. 15

- The EIS (page S-27) says the MOX campaign will require 11 years to disposition plutonium. The MOX RFP says 15 plus. Pit disassembly and conversion and immobilization are still in the early R&D stages. And, no SNM processing facilities have ever been built in a three-year timeframe by DOE in recent decades. None of these schedules have any basis in reality, nor or they a realistic basis for NEPA analysis. An overly optimistic schedule is not bounding in NEPA terms. An extended schedule results in greater waste, exposure, risk, and impact. 16

- The dry process for disassembly and conversion will leave residual plutonium contamination on thousands of highly enriched uranium parts making them unsuitable for shipment to Oak Ridge as described in the EIS. The only technology currently used for decontamination of uranium pieces like this is aqueous-based. Where is this described in the EIS. I don't see this process and its wastes in the pit disassembly description. 17

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MD131–12 **Pit Demonstration EA**

DOE believes that it took the correct NEPA approach with regard to the action proposed in the *Pit Disassembly and Conversion Demonstration EA* (DOE/EA-1207, August 1998), and that this action does not prejudice future action under this SPD EIS. In that EA, DOE proposed a limited-scope demonstration at LANL to test an integrated pit disassembly and conversion process on a relatively small sample of plutonium pits (250) and metals. The information gathered from the demonstration will be used to supplement information developed to support the construction of a full-scale pit conversion facility, if DOE decides to build such a facility based on analysis presented in this SPD EIS. In compliance with DOE's NEPA regulations (10 CFR 1021), that EA discussed the No Action Alternative in addition to the proposed action. Based on the analysis in the EA, DOE concluded that the proposed action did not constitute a major Federal action affecting the environmental quality, and therefore issued a FONSI on August 14, 1998.

The plutonium metal and dioxide that will be produced during the demonstration will be staged in existing special nuclear material storage facilities at LANL until a decision is made on the ultimate disposition strategy. The resulting plutonium metal and dioxide will be suitable for disposition either using immobilization or for use in MOX fuel. No new storage construction will be required, and there will be no need to increase the storage limits of the existing facilities. The demonstration will result in a small net increase in the amount of surplus plutonium at LANL. DOE intends to ship LANL's total surplus plutonium to the disposition site or sites that are chosen as a part of the ROD for this SPD EIS. These demonstration storage activities are part of the ongoing operations discussed in the *Site-Wide Environmental Impact Statement on the Continued Operation of the Los Alamos National Laboratory* (DOE/EIS-0238, January 1999), which is incorporated by reference in the *Pit Disassembly and Conversion Demonstration EA*.

MD131–13 **Pit Disassembly and Conversion**

The HYDOX (dry) process described for the pit conversion facility in Section 2.4.1.2 is a process for converting plutonium metal with certain impurities to a plutonium dioxide with a minimum of impurities. In the HYDOX process, the pit hemishells (i.e., nonpit plutonium metal) would be placed

into the HYDOX module, where the metal would be exposed to and react with hydrogen, then nitrogen, and finally oxygen at controlled temperatures and pressures to produce plutonium dioxide. This is one variation of the basic hydride-dehydride process; another would produce a metal rather than an oxide. The process described in this SPD EIS is not only representative of the proposed process, but is bounding for potential impacts, including accidents. However, a pit disassembly and conversion demonstration aimed at optimizing process operations for the pit conversion facility is under way at LANL. Should evidence from that demonstration or other research invalidate the analyses reflected in this EIS, additional NEPA documentation would be prepared.

MD131–14 Plutonium Polishing and Aqueous Processing

While the SRS FB-Line and associated facilities could be configured to disassemble and declassify pits leaving the plutonium in the metal form, the surplus plutonium disposition program requires that the plutonium metal be converted to oxide for subsequent disposition actions. Therefore, additional processing would be required later to complete the disposition objective. In addition, use of FB-Line for this function would extend its life beyond the timeframe that DOE currently intends to operate this facility.

MD131–15 Pit Disassembly and Conversion

The ability to bring a Government facility on line depends largely on the ability to obtain the required level of congressional funding. Nevertheless, DOE needs to estimate the duration of the construction period in order to assess potential environmental impacts. Based on experience with similar facilities, DOE estimates that it would take 3 years to construct the pit conversion facility. If congressional funding were secured after the ROD was issued, construction could start in 2001, with facility operation beginning in 2004. The 3-year construction period would result in potential impacts more intense than those spread over a longer period.

While it is true that the pit conversion facility is the first consolidated facility for accomplishing this mission on a large scale, the processes that would be used in this facility are not entirely new. Many of these processes are in use at LANL and LLNL. In addition, DOE has recently started a pit disassembly and conversion demonstration project at LANL, where processes will be further developed and tested.

MD131–16 **Alternatives**

DOE acknowledges the commentor's concern about the timeframe for the surplus plutonium disposition program. The schedules presented in Appendix E reflect the design, construction, and operation timeframes DOE has proposed for the surplus plutonium disposition facilities. DOE believes that these schedules can be met and has used them to evaluate the potential impacts of its proposed actions. DOE's MOX RFP specified a timetable including first insertion of production, not test, fuel no later than the end of calendar year 2007, and a date of last insertion no later than 2019. This timetable was acceptable to DCS, the team that was selected for this effort. However, because there could be some delays associated with issues such as negotiations with other countries, Section 4.30.2 includes a discussion of incremental impacts of variations in that schedule. As explained in that section, certain impacts (e.g., exposure) would occur only or primarily during processing, and the total impacts would not change even if the processing schedule were extended or shortened. For example, if the operating period of the MOX facility were extended by 1 year, the total dose and LCFs for the worker and the public would remain essentially unchanged, though the annual dose would be expected to decrease. If the facility were not operating, or operating at a lower throughput, the dose rate would be lower. Then the only contributors would be small amounts of internal equipment contamination and material in highly shielded storage, and presumably fewer workers would be at the facility. Total impacts from these internal sources, however, would depend on the period of operations; lengthening operations for 1 year would mean continued impacts at the levels described in Chapter 4 of Volume I for 1 year or longer.

MD131–17 **Waste Management**

Section 2.4.1.2 of the SPD Draft EIS states that HEU and classified metal shapes would be decontaminated. Waste volumes listed in Chapter 4 of Volume I and Appendix H include wastes generated by the HEU decontamination process.

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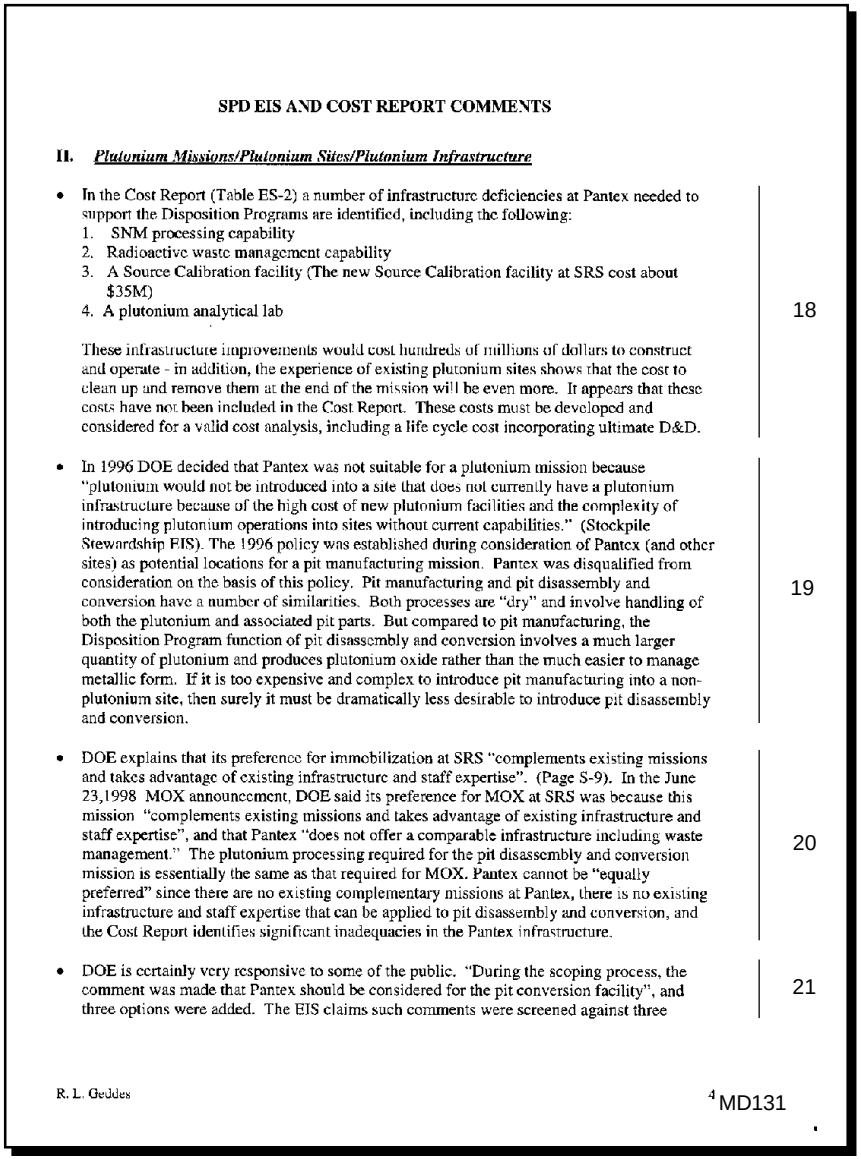

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II. *Plutonium Missions/Plutonium Sites/Plutonium Infrastructure*

- In the Cost Report (Table ES-2) a number of infrastructure deficiencies at Pantex needed to support the Disposition Programs are identified, including the following:
  1. SNM processing capability
  2. Radioactive waste management capability
  3. A Source Calibration facility (The new Source Calibration facility at SRS cost about $35M)
  4. A plutonium analytical lab

  These infrastructure improvements would cost hundreds of millions of dollars to construct and operate - in addition, the experience of existing plutonium sites shows that the cost to clean up and remove them at the end of the mission will be even more. It appears that these costs have not been included in the Cost Report. These costs must be developed and considered for a valid cost analysis, including a life cycle cost incorporating ultimate D&D. 18

- In 1996 DOE decided that Pantex was not suitable for a plutonium mission because "plutonium would not be introduced into a site that does not currently have a plutonium infrastructure because of the high cost of new plutonium facilities and the complexity of introducing plutonium operations into sites without current capabilities." (Stockpile Stewardship EIS). The 1996 policy was established during consideration of Pantex (and other sites) as potential locations for a pit manufacturing mission. Pantex was disqualified from consideration on the basis of this policy. Pit manufacturing and pit disassembly and conversion have a number of similarities. Both processes are "dry" and involve handling of both the plutonium and associated pit parts. But compared to pit manufacturing, the Disposition Program function of pit disassembly and conversion involves a much larger quantity of plutonium and produces plutonium oxide rather than the much easier to manage metallic form. If it is too expensive and complex to introduce pit manufacturing into a non-plutonium site, then surely it must be dramatically less desirable to introduce pit disassembly and conversion. 19

- DOE explains that its preference for immobilization at SRS "complements existing missions and takes advantage of existing infrastructure and staff expertise". (Page S-9). In the June 23,1998 MOX announcement, DOE said its preference for MOX at SRS was because this mission "complements existing missions and takes advantage of existing infrastructure and staff expertise", and that Pantex "does not offer a comparable infrastructure including waste management." The plutonium processing required for the pit disassembly and conversion mission is essentially the same as that required for MOX. Pantex cannot be "equally preferred" since there are no existing complementary missions at Pantex, there is no existing infrastructure and staff expertise that can be applied to pit disassembly and conversion, and the Cost Report identifies significant inadequacies in the Pantex infrastructure. 20

- DOE is certainly very responsive to some of the public. "During the scoping process, the comment was made that Pantex should be considered for the pit conversion facility", and three options were added. The EIS claims such comments were screened against three 21

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MD131–18 **Cost Report**

Because this comment relates directly to the cost analysis report, it has been forwarded to the cost analysis team for consideration. The *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, is available on the MD Web site at http://www.doe-md.com and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C.

MD131–19 **Alternatives**

The *Final Programmatic Environmental Impact Statement for Stockpile Stewardship and Management* (SSM PEIS) (DOE/EIS-0236, September 1996) states that the pit fabrication mission would not be introduced into a site that does not have an existing plutonium infrastructure because of the high cost of new plutonium facilities and the complexity of introducing plutonium operations into sites without current plutonium capabilities. The SSM PEIS states further that an important element of the site selection strategy is maximizing the use of existing infrastructure and facilities as the nuclear weapons complex becomes smaller and more efficient in the 21st century; thus, no new facilities were to be built to accommodate stockpile management missions. Accordingly, DOE considered as reasonable only those sites with existing infrastructure capable of supporting a pit fabrication mission. Although Pantex has the infrastructure to carry out its current weapons assembly and disassembly mission and a nonintrusive pit reuse program, it was not considered a viable alternative for the pit fabrication mission because it did not possess sufficient capability and infrastructure to meet the SSM PEIS siting assumption stated above. Among the operations that were considered in developing siting alternatives for pit fabrication in the SSM PEIS were plutonium foundry and mechanical processes including casting, shaping, machining, and bonding; a plutonium-processing capability for extracting and purifying plutonium to a reusable form either from pits or residues; and assembly operations involving seal welding and postassembly processing.

When comparing the site selection strategy for pit disassembly and conversion mission with that used for the pit fabrication mission, the siting criteria in the SSM PEIS has little or no bearing on siting criteria use in this SPD EIS. Pit disassembly and conversion do not require the foundry and mechanical

processes discussed in the SSM PEIS and can be accomplished in a stand-alone facility. Also, the SSM PEIS siting assumptions include a requirement to use existing facilities, whereas, the pit conversion facility would be a new structure no matter where it is located.

MD131–20 **Alternatives**

The initial preference for Pantex and SRS as sites for the pit conversion facility was based on a determination by DOE that the differences in environmental impacts were modest, and thus did not warrant the preference of one site over the other. Existing infrastructure that supported placement of the pit conversion facility at Pantex included security, staff expertise, and the presence of the pits that need to be dismantled. Costs for all required infrastructure were estimated, and even with the additional waste management and infrastructure support needed at Pantex, the cost differences were not considered significant.

As indicated in the revised Section 1.6, SRS is preferred for the pit conversion facility because the site has extensive experience with plutonium processing, and the pit conversion facility complements existing missions and takes advantage of existing infrastructure.

MD131–21 **Alternatives**

Pantex was identified as a candidate site for both the pit conversion and MOX facilities in the NOI. The alternatives that were added after the scoping process to include Pantex as a candidate site for pit conversion were associated with the immobilization-only options; Pantex had already been identified as a candidate site for the pit conversion facility for a number of the hybrid alternatives. As discussed in Section 2.3.1, these options were added after DOE confirmed that they met all the screening criteria.

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criteria, one of which was infrastructure cost. Since Pantex has no plutonium infrastructure, it logically could not pass this screen. | 21

- For both safety and security reasons, it is important that there be a large buffer zone around plutonium facilities. The fact that the distance to the sight boundary at SRS is at least 5X that existing at Pantex should be a significant discriminator. A plutonium release at Pantex would reach the site boundary before an public evacuation notice could be issued. | 22

III. ***Program Costs***

- The Cost Report says it "does not incorporate possible synergies between co-locating disposition facilities at one site" (page 3.3). This information is required to make a valid decision. | 23
- The Cost Report shows the answers of MD's analysis of the cost of various options. But since there is no backup/worksheet data publicly available – how is the public supposed to draw any confidence in the veracity and credibility of this analysis. The full analysis needs to be available for review and comment. | 24
- The Cost Report (page 1-10) says DOE's estimate for the immobilization facility was determined on a square foot basis based on experience with similar projects. What were those similar projects? Most of the large comparable nuclear facilities built in this country in the last 15 years have been built at SRS (e.g., DWPF, NSR, HB-Line, RTF) and all of them were significantly more per square foot (even 10-15 years ago!) than the Cost Report estimates for new facilities ($450M/108,000 sq. ft = $4200). | 25
- Both the MOX and Inumobilization facilities are estimated at about $4200/sq. ft. The cost per square foot of the pit disassembly and conversion facility is much less, about $2900 per sq. ft. of hardened space? ($440M/~150,000 sq. ft. = $2900). Since the facilities are similar in size and all are plutonium oxide processing facilities it seems logical the cost per square foot would be similar. | 26
- The construction of a MOX plant is estimated at $510M for both Pantex and SRS. Yet the Pantex plant is bigger in the EIS, and the Cost Report has identified the major deficiencies in the infrastructure at Pantex which would have to be added to support a MOX operation. The cost of a MOX operation at Pantex must be much higher than at SRS. | 23
- Some of the construction data is inconsistent. For instance, the MOX plant (120,000 sq. ft.) requires about 50% more construction manpower than the pit disassembly and conversion facility (~150,000 sq. ft.). | 24
- Penalizing sites other than Pantex with an $80 million dollar charge for packaging and shipping pits to a pit disassembly facility elsewhere (page 3-4) is not a valid charge. Shipping plutonium oxide from Pantex to SRS for disposition would cost more than shipping | 25

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MD131–22 **Human Health Risk**

Appendixes K.4 and K.5 present the hypothetical maximum accident impacts on a receptor at each site boundary. Although calculations show that most accidents would yield somewhat higher doses to this receptor at Pantex—given the proximity of the boundary to the release location, the meteorology, and other factors—the differences from the perspective of health risk would, in most cases, likely be minor. This assertion is warranted by the cancer risk values stipulated in Tables K–12, K–13, K–14, and K–25.

MD131–23 **Cost Report**

This comment is addressed in response MD131–18.

MD131–24 **Cost Report**

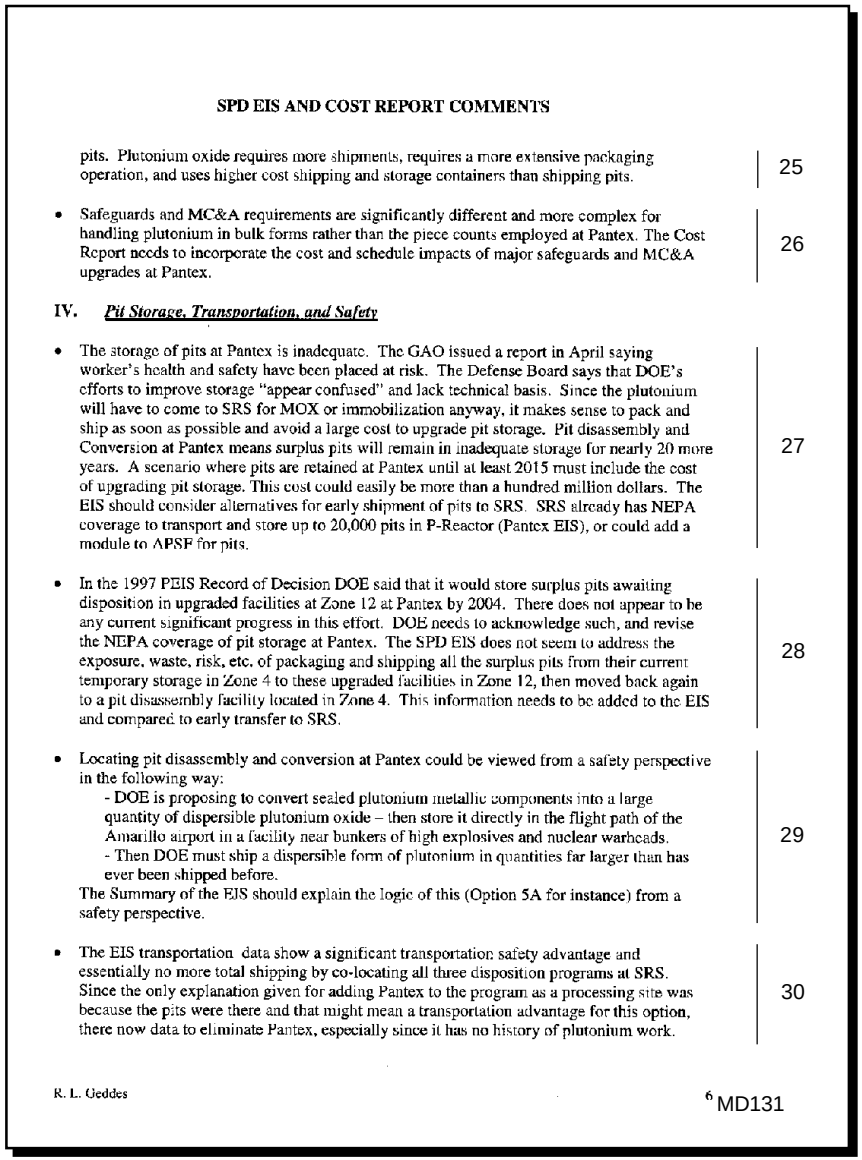
This comment is addressed in response MD131–18.

MD131–25 **Cost Report**

This comment is addressed in response MD131–18.

MD131–26 **Cost Report**

This comment is addressed in response MD131–18.



SPD EIS AND COST REPORT COMMENTS

pits. Plutonium oxide requires more shipments, requires a more extensive packaging operation, and uses higher cost shipping and storage containers than shipping pits. 25

- Safeguards and MC&A requirements are significantly different and more complex for handling plutonium in bulk forms rather than the piece counts employed at Pantex. The Cost Report needs to incorporate the cost and schedule impacts of major safeguards and MC&A upgrades at Pantex. 26

IV. ***Pit Storage, Transportation, and Safety***

- The storage of pits at Pantex is inadequate. The GAO issued a report in April saying worker's health and safety have been placed at risk. The Defense Board says that DOE's efforts to improve storage "appear confused" and lack technical basis. Since the plutonium will have to come to SRS for MOX or immobilization anyway, it makes sense to pack and ship as soon as possible and avoid a large cost to upgrade pit storage. Pit disassembly and Conversion at Pantex means surplus pits will remain in inadequate storage for nearly 20 more years. A scenario where pits are retained at Pantex until at least 2015 must include the cost of upgrading pit storage. This cost could easily be more than a hundred million dollars. The EIS should consider alternatives for early shipment of pits to SRS. SRS already has NEPA coverage to transport and store up to 20,000 pits in P-Reactor (Pantex EIS), or could add a module to APSF for pits. 27

- In the 1997 PEIS Record of Decision DOE said that it would store surplus pits awaiting disposition in upgraded facilities at Zone 12 at Pantex by 2004. There does not appear to be any current significant progress in this effort. DOE needs to acknowledge such, and revise the NEPA coverage of pit storage at Pantex. The SPD EIS does not seem to address the exposure, waste, risk, etc. of packaging and shipping all the surplus pits from their current temporary storage in Zone 4 to these upgraded facilities in Zone 12, then moved back again to a pit disassembly facility located in Zone 4. This information needs to be added to the EIS and compared to early transfer to SRS. 28

- Locating pit disassembly and conversion at Pantex could be viewed from a safety perspective in the following way:
  - DOE is proposing to convert sealed plutonium metallic components into a large quantity of dispersible plutonium oxide – then store it directly in the flight path of the Amarillo airport in a facility near bunkers of high explosives and nuclear warheads.
  - Then DOE must ship a dispersible form of plutonium in quantities far larger than has ever been shipped before.

  The Summary of the EIS should explain the logic of this (Option 5A for instance) from a safety perspective. 29

- The EIS transportation data show a significant transportation safety advantage and essentially no more total shipping by co-locating all three disposition programs at SRS. Since the only explanation given for adding Pantex to the program as a processing site was because the pits were there and that might mean a transportation advantage for this option, there now data to eliminate Pantex, especially since it has no history of plutonium work. 30

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MD131–27 **Storage and Disposition PEIS and ROD**

DOE acknowledges the commentor's concern regarding the storage of plutonium pits at Pantex. DOE is committed to the safe, secure storage of pits and is evaluating options for upgrades to Pantex Zone 4 facilities to address plutonium storage requirements. DOE has addressed some of the commentor's concerns in an environmental review concerning the repackaging of Pantex pits into a more robust container. This evaluation is documented in the *Supplement Analysis for: Final Environmental Impact Statement for the Continued Operation of the Pantex Plant and Associated Storage of Nuclear Weapon Components–AL–R8 Sealed Insert Container* (August 1998). This document is on the MD Web site at http://www.doe-md.com. Based on this supplement analysis, the decision was made to repackage pits at Pantex into the AL–R8 sealed insert container and to discontinue plans to repackage pits into the AT–400A container.

MD131–28 **Storage and Disposition PEIS and ROD**

Worker exposure estimates attributable to the decision to repackage pits in AL–R8 sealed insert containers were incorporated in the revised Section 2.18 and Appendix L.5.1.

The issues raised in this comment relate to pit storage decisions made in the *Storage and Disposition PEIS* and the *Final Environmental Impact Statement for the Continued Operation of the Pantex Plant and Associated Storage of Nuclear Weapon Components* (DOE/EIS-0225, November 1996). DOE is considering leaving the repackaged surplus pits in Zone 4 at Pantex for long-term storage. An appropriate environmental review will be conducted when the specific proposal for this change has been determined; e.g., whether additional magazines need to be air-conditioned. The analysis in this SPD EIS assumes that the surplus pits are stored in Zone 12 in accordance with the ROD for the Storage and Disposition PEIS.

The remainder of this comment is addressed in response MD131–27.

MD131–29 **Human Health Risk**

In response to public concerns, a number of actions (see Appendix K.1.5.1) have been taken to reduce the risk of an aircraft crash at Pantex. The frequency

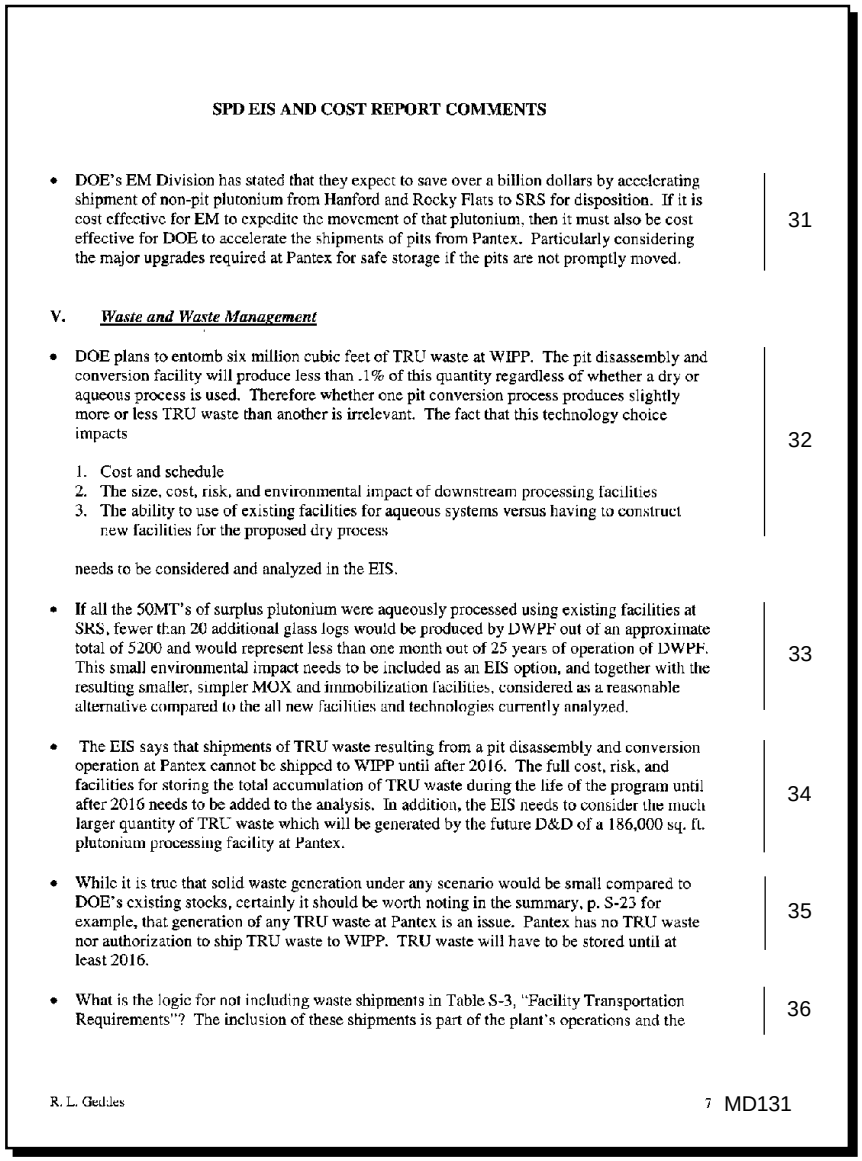
of a crash into a pit conversion facility vault containing plutonium powder (plutonium dioxide) is less than 1 in 10 million per year. According to conservative calculations (see Table K–12), this "beyond-extremely-unlikely" accident (estimated frequency: lower than 1 in 1 million per year) would induce 4.5 LCFs in the population within 80 km (50 mi) of the site.

The impacts of explosives and the associated release of plutonium powder into the environment have also been evaluated (Appendix K.1.5.2.1). An explosion would be "unlikely" (estimated frequency: 1 in 10,000 to 1 in 100 per year). Conservative calculations (see Table K–12) indicate that this accident would induce only 0.00011 LCF in the population within 80 km (50 mi) of the site. The inadvertent detonation of a nuclear warhead is not considered credible.

Impacts associated with transporting plutonium dioxide from Pantex to offsite facilities are addressed in this SPD EIS; an estimate of the maximum potential impacts of such a shipment is included in Appendix L.6.3. According to conservative calculations, a transportation accident in an urban area would produce 27 LCFs within a radius of 80 km (50 mi) of the accident location. However, given the extremely low frequency of the accident (much lower than 1 in 10 million per year), the actual risk of a fatal cancer is extremely low. A transportation accident in a rural area, the scenario discussed in Section 4.6.2.6, has a frequency of 1 in 10 million per year and a predicted impact of less than 0.1 LCF. The net result is an extremely low risk of a fatal cancer among the population within 80 km (50 mi) of the accident. In summary, conservative evaluations indicate no significant safety concerns to the public from locating the pit conversion facility at Pantex.

MD131–30 **Transportation**

The selection of sites for potential surplus plutonium disposition facilities was based on a number of factors. The location of the surplus pits at Pantex was not the only reason for making it a reasonable alternative for siting the proposed surplus plutonium disposition facilities. As indicated in Section 2.18, no traffic fatalities from nonradiological accidents or LCFs from radiological exposures or vehicle emissions are expected. Table L–6 shows the transportation risks for all alternatives. Analyses of transportation risks are just one of the factors considered in the decisionmaking regarding facility siting.



SPD EIS AND COST REPORT COMMENTS

- DOE's EM Division has stated that they expect to save over a billion dollars by accelerating shipment of non-pit plutonium from Hanford and Rocky Flats to SRS for disposition. If it is cost effective for EM to expedite the movement of that plutonium, then it must also be cost effective for DOE to accelerate the shipments of pits from Pantex. Particularly considering the major upgrades required at Pantex for safe storage if the pits are not promptly moved. 31

V. ***Waste and Waste Management***

- DOE plans to entomb six million cubic feet of TRU waste at WIPP. The pit disassembly and conversion facility will produce less than .1% of this quantity regardless of whether a dry or aqueous process is used. Therefore whether one pit conversion process produces slightly more or less TRU waste than another is irrelevant. The fact that this technology choice impacts 32

  1. Cost and schedule
  2. The size, cost, risk, and environmental impact of downstream processing facilities
  3. The ability to use of existing facilities for aqueous systems versus having to construct new facilities for the proposed dry process

  needs to be considered and analyzed in the EIS.

- If all the 50MT's of surplus plutonium were aqueously processed using existing facilities at SRS, fewer than 20 additional glass logs would be produced by DWPF out of an approximate total of 5200 and would represent less than one month out of 25 years of operation of DWPF. This small environmental impact needs to be included as an EIS option, and together with the resulting smaller, simpler MOX and immobilization facilities, considered as a reasonable alternative compared to the all new facilities and technologies currently analyzed. 33

- The EIS says that shipments of TRU waste resulting from a pit disassembly and conversion operation at Pantex cannot be shipped to WIPP until after 2016. The full cost, risk, and facilities for storing the total accumulation of TRU waste during the life of the program until after 2016 needs to be added to the analysis. In addition, the EIS needs to consider the much larger quantity of TRU waste which will be generated by the future D&D of a 186,000 sq. ft. plutonium processing facility at Pantex. 34

- While it is true that solid waste generation under any scenario would be small compared to DOE's existing stocks, certainly it should be worth noting in the summary, p. S-23 for example, that generation of any TRU waste at Pantex is an issue. Pantex has no TRU waste nor authorization to ship TRU waste to WIPP. TRU waste will have to be stored until at least 2016. 35

- What is the logic for not including waste shipments in Table S-3, "Facility Transportation Requirements"? The inclusion of these shipments is part of the plant's operations and the 36

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MD131–31 Storage and Disposition PEIS and ROD

The potential cost saving that could result from the early movement of nonpit surplus plutonium from RFETS and Hanford is based on the termination of storage operations and required security at those sites. Security is a major cost involved with storage. The same situation does not apply to Pantex, which will continue its storage mission and associated security. Further, major upgrades of storage facilities at Pantex are not required, but DOE is considering some upgrades (e.g., air conditioning, catwalks, standby power) to address plutonium storage requirements. Although SRS is preferred for the proposed surplus plutonium disposition facilities, a decision has not been made. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

MD131–32 Waste Management

An aqueous process for conversion of plutonium would need to be placed in a new facility. Existing canyon facilities are not configured for a plutonium disposition mission and are either shut down or planned for shutdown and D&D.

DOE is committed to waste minimization and pollution prevention throughout the complex.

The remainder of this comment is addressed in response MD131–1.

MD131–33 Waste Management

This comment is addressed in response MD131–9.

MD131–34 Waste Management

Section 4.17.2.2 evaluates the potential impacts of operation of the pit conversion and MOX facilities on the waste management infrastructure at Pantex. This section states that the 640 m^3 (837 yd^3) of TRU waste generated over the 10-year operations period could be stored within the new pit conversion and MOX facilities with minimal impact on existing waste management infrastructure at Pantex. The amount of waste generated by D&D of the facilities would be determined by the future use selected for the buildings and adjacent land areas. As described in Section 4.31, DOE will

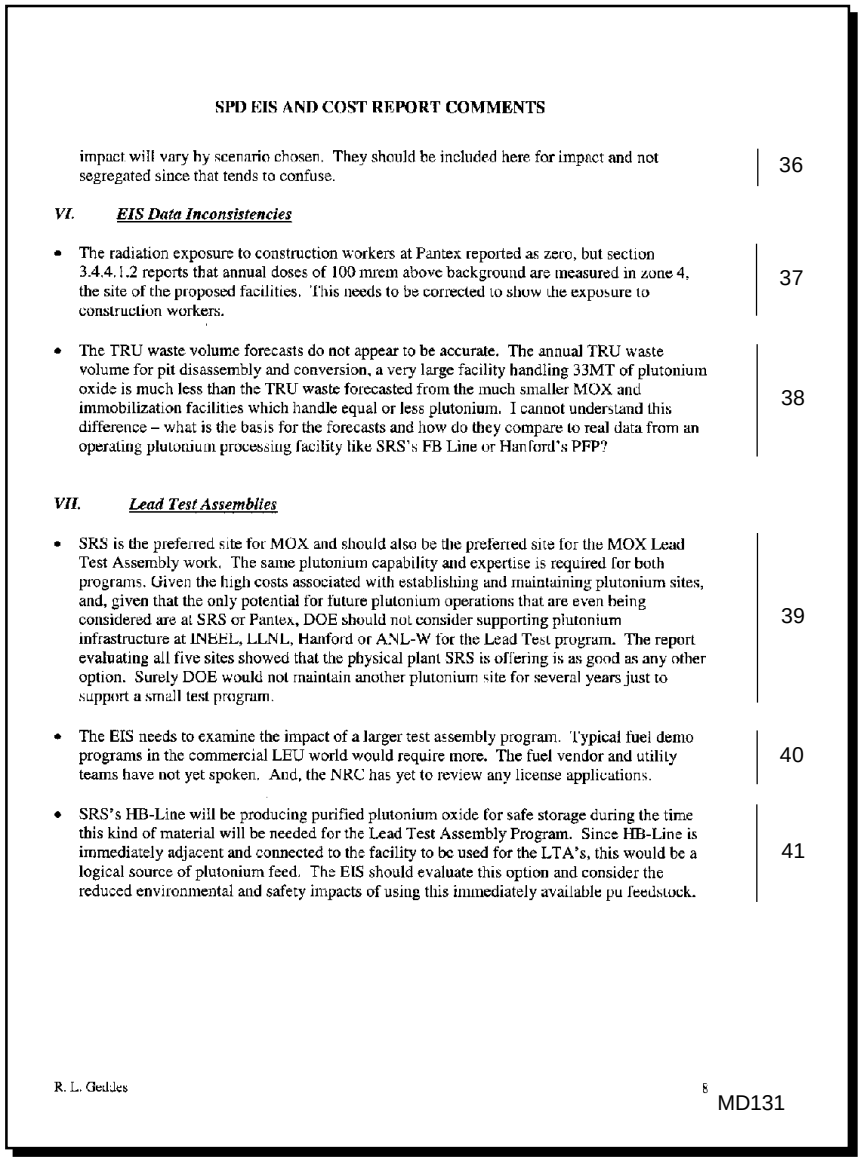
evaluate options for D&D or reuse of the proposed facilities at the end of the surplus plutonium disposition program. At that time, DOE will perform engineering evaluations, environmental studies, and further NEPA review to assess the consequences of different courses of action.

MD131–35 **Waste Management**

Pantex's lack of TRU waste capacity is discussed in Section S.7 of the *Summary*, which states that because TRU waste is not routinely generated and stored at Pantex, TRU waste storage space would be designated within the pit conversion and MOX facilities. Also, Section S.8 of the *Summary* states that TRU waste storage at Pantex would be provided within the new surplus plutonium disposition facility. In addition, Section 4.17.2.2 assumes that all TRU waste would be stored on the site before being shipped to WIPP for disposal. Although Pantex is not currently authorized to ship TRU waste to WIPP, wastes produced by the proposed surplus plutonium disposition facilities could be accommodated in WIPP. Section 4.17.2.6 includes an analysis of the transport of TRU waste from Pantex to WIPP. This analysis would provide the NEPA documentation for these shipments if this alternative were selected.

MD131–36 **Waste Management**

DOE acknowledges the commentor's concerns regarding transportation of wastes generated by the proposed surplus plutonium disposition facilities. The impacts of waste transportation are analyzed in detail in the *Final Waste Management Programmatic Environmental Impact Statement for Managing Treatment, Storage, and Disposal of Radioactive and Hazardous Waste* (WM PEIS) (DOE/EIS-0200-F, May 1997). As described in Appendix L.6.4 of this SPD EIS, waste transportation at the sites would be handled in the same manner as current waste shipments, and would generally not constitute a major increase in the amounts or risks of waste currently being generated at these sites and analyzed in the WM PEIS. Therefore, this small increment of shipments is not analyzed in this SPD EIS. However, wastes could be generated by surplus plutonium disposition activities that are not covered in the WM PEIS: (1) TRU waste generated at Pantex; (2) some of the LLW generated at Pantex; and (3) some of the LLW generated by lead assembly fabrication at LLNL. Shipment of Pantex TRU waste to WIPP, and Pantex and LLNL LLW to NTS disposal facilities are analyzed in this SPD EIS with the



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impact will vary by scenario chosen. They should be included here for impact and not segregated since that tends to confuse. 36

VI. ***EIS Data Inconsistencies***

- The radiation exposure to construction workers at Pantex reported as zero, but section 3.4.4.1.2 reports that annual doses of 100 mrem above background are measured in zone 4, the site of the proposed facilities. This needs to be corrected to show the exposure to construction workers. 37

- The TRU waste volume forecasts do not appear to be accurate. The annual TRU waste volume for pit disassembly and conversion, a very large facility handling 33MT of plutonium oxide is much less than the TRU waste forecasted from the much smaller MOX and immobilization facilities which handle equal or less plutonium. I cannot understand this difference – what is the basis for the forecasts and how do they compare to real data from an operating plutonium processing facility like SRS's FB Line or Hanford's PFP? 38

VII. ***Lead Test Assemblies***

- SRS is the preferred site for MOX and should also be the preferred site for the MOX Lead Test Assembly work. The same plutonium capability and expertise is required for both programs. Given the high costs associated with establishing and maintaining plutonium sites, and, given that the only potential for future plutonium operations that are even being considered are at SRS or Pantex, DOE should not consider supporting plutonium infrastructure at INEEL, LLNL, Hanford or ANL-W for the Lead Test program. The report evaluating all five sites showed that the physical plant SRS is offering is as good as any other option. Surely DOE would not maintain another plutonium site for several years just to support a small test program. 39

- The EIS needs to examine the impact of a larger test assembly program. Typical fuel demo programs in the commercial LEU world would require more. The fuel vendor and utility teams have not yet spoken. And, the NRC has yet to review any license applications. 40

- SRS's HB-Line will be producing purified plutonium oxide for safe storage during the time this kind of material will be needed for the Lead Test Assembly Program. Since HB-Line is immediately adjacent and connected to the facility to be used for the LTA's, this would be a logical source of plutonium feed. The EIS should evaluate this option and consider the reduced environmental and safety impacts of using this immediately available pu feedstock. 41

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results presented in Chapter 4 of Volume I and Appendix L. Transportation requirements for these wastes are not included in Table S–2 since this table provides generic transportation requirements applicable to the listed facilities regardless of site location.

MD131–37 **Human Health Risk**

As stated in Section 3.4.4.1.2, the 100-mrem dose is the dose measured at an offsite control location. It is the dose strictly associated with the natural background levels of the area; no part of the dose is attributable to above-background sources. Therefore, there is no discrepancy in the assertion of a zero dose (i.e., the dose level above background) for Pantex construction workers. A statement was added to applicable Chapter 3 (Volume I) sections to further clarify this issue.

MD131–38 **Waste Management**

The pit conversion facility would convert relatively clean plutonium metal pits to clean plutonium dioxide. In contrast, both the immobilization and MOX facilities mix the plutonium with other materials, increasing the material flow through the facility by a factor of 10 to 20. Additionally, the immobilization facility would handle plutonium in various forms, including fuel rods and plates, impure oxides, and impure metals and alloys. Each form of plutonium requires different processing techniques; some would require significantly more handling than pits require in the pit conversion facility and therefore would generate more TRU waste. Likewise, many steps are needed to fabricate the clean plutonium dioxide into fuel assemblies in the MOX facility. Because the immobilization and MOX approaches are more complicated and process a considerably larger total material throughput, it is estimated that more TRU waste would be produced by the immobilization and MOX facilities than the pit conversion facility.

MD131–39 **Lead Assemblies**

DOE acknowledges the commentor's support for the fabrication of lead assemblies at SRS. As discussed in the revised Section 1.6, based on consideration of capabilities of the candidate sites and input from DCS on the MOX approach, DOE prefers LANL for lead assembly fabrication. LANL is preferred because it already has fuel fabrication facilities that would not

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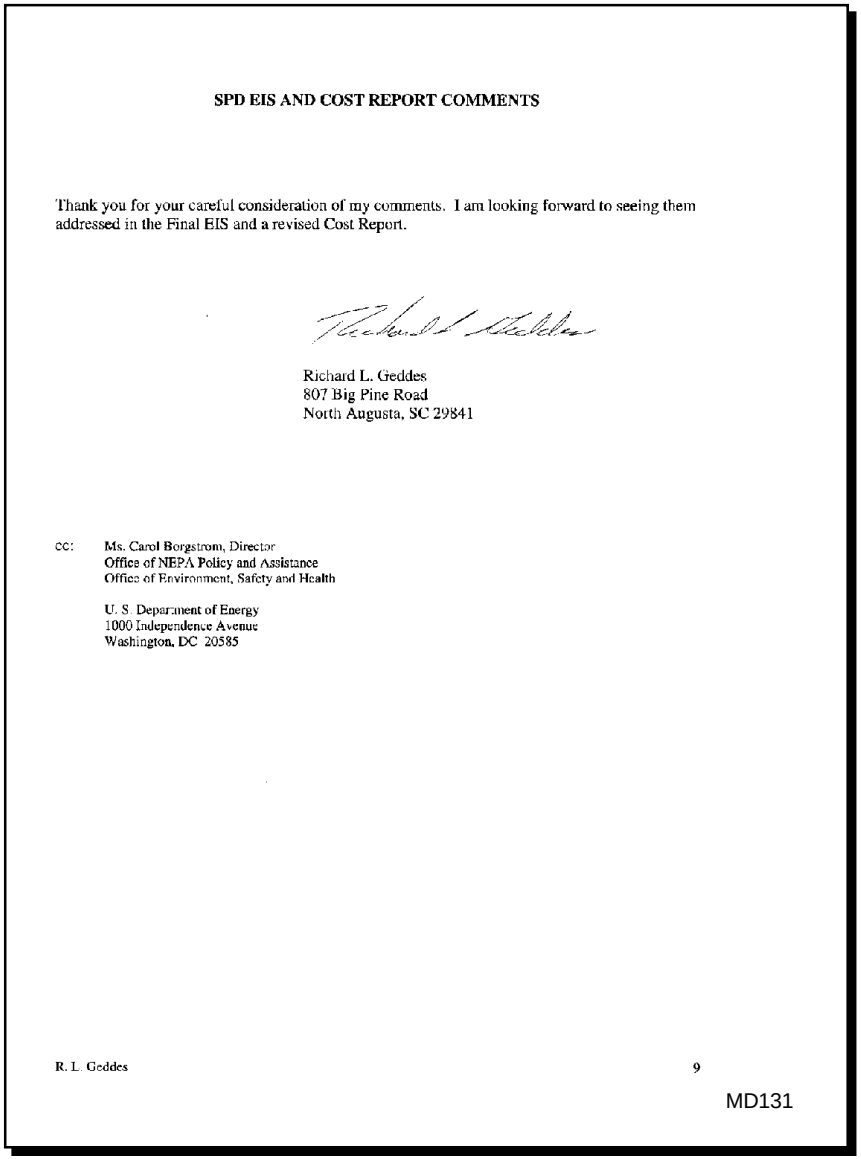

SPD EIS AND COST REPORT COMMENTS

Thank you for your careful consideration of my comments. I am looking forward to seeing them addressed in the Final EIS and a revised Cost Report.

Richard L. Geddes
807 Big Pine Road
North Augusta, SC 29841

cc: Ms. Carol Borgstrom, Director
Office of NEPA Policy and Assistance
Office of Environment, Safety and Health

U. S. Department of Energy
1000 Independence Avenue
Washington, DC 20585

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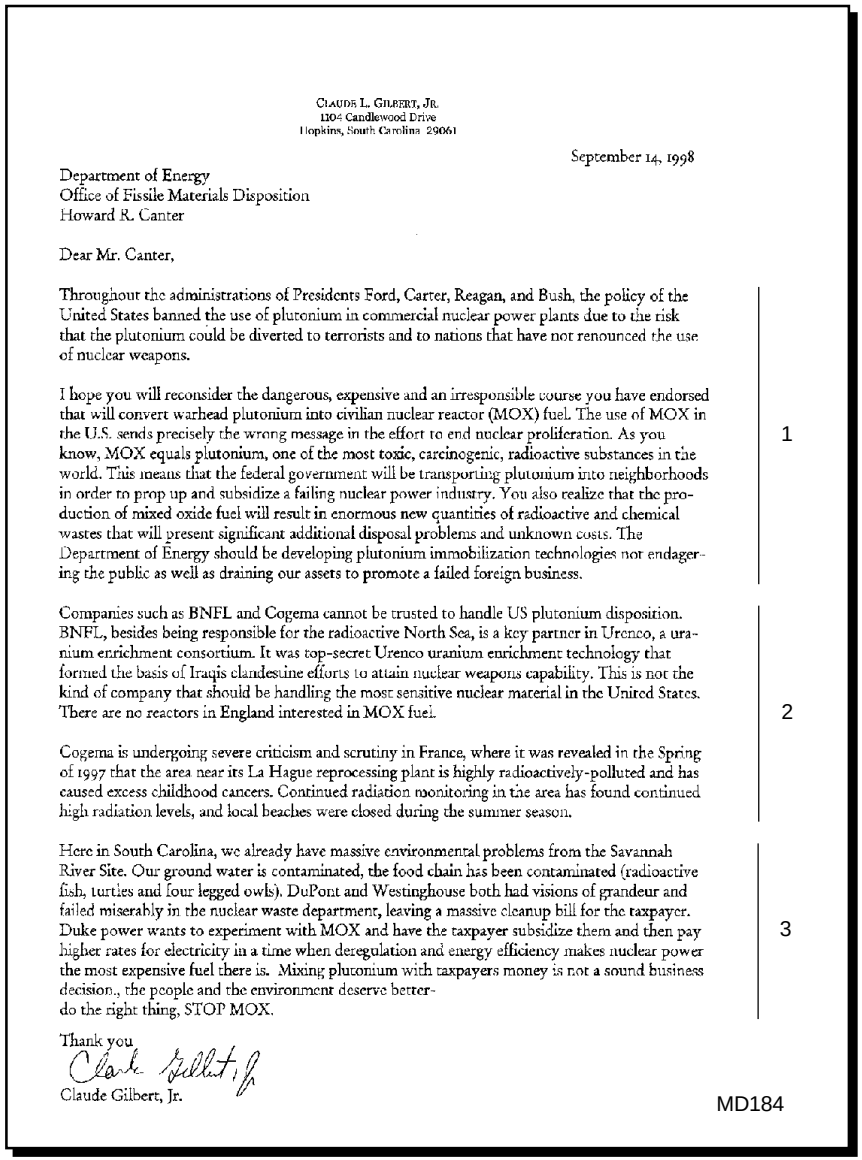
require major modifications, and takes advantage of existing infrastructure and staff expertise. Additionally, the surplus plutonium dioxide that would be used to fabricate the lead assemblies would already be in inventory at the site. DOE prefers ORNL for postirradiation examination activities. ORNL has the existing facilities and staff expertise needed to perform postirradiation examination as a matter of its routine activities; no major modifications to facilities or processing capabilities would be required. In addition, ORNL is about 500 km (300 mi) from the reactor site that would irradiate the fuel. Decisions on lead assembly fabrication and postirradiation examination will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

MD131–40 **Lead Assemblies**

The lead assembly program, including determination of the number of lead assemblies for test irradiation, was the product of close consultation with representatives of the commercial nuclear industry. Since publication of the SPD Draft EIS, the number of lead assemblies has in fact been reduced to two on the basis of information provided by DCS. DCS indicated in its proposal that two lead assemblies should be sufficient for its fuel qualification plan, although it is possible that more than two would be required. The potential impacts of fabricating 10 lead assemblies and irradiating 8 of them were analyzed in the SPD Draft EIS. Should fewer lead assemblies than analyzed be fabricated or irradiated, the potential impacts would be less than those described in this SPD EIS. This SPD EIS analyzes the potential impacts of the fabrication of the lead assemblies. Domestic, commercial reactors operate under NRC license; therefore, the use of MOX fuel lead assemblies would be subject to review and regulation by NRC.

MD131–41 **Lead Assemblies**

The purpose of the lead assembly project is to qualify fuel for the MOX approach to surplus plutonium disposition. In this SPD EIS, it is assumed that the plutonium would come from dismantled pits or existing supplies of surplus metal and oxide at LANL.



CLAUDE L. GILBERT, JR.
1104 Candlewood Drive
Hopkins, South Carolina 29061

September 14, 1998

Department of Energy
Office of Fissile Materials Disposition
Howard R. Canter

Dear Mr. Canter,

Throughout the administrations of Presidents Ford, Carter, Reagan, and Bush, the policy of the United States banned the use of plutonium in commercial nuclear power plants due to the risk that the plutonium could be diverted to terrorists and to nations that have not renounced the use of nuclear weapons. 1

I hope you will reconsider the dangerous, expensive and an irresponsible course you have endorsed that will convert warhead plutonium into civilian nuclear reactor (MOX) fuel. The use of MOX in the U.S. sends precisely the wrong message in the effort to end nuclear proliferation. As you know, MOX equals plutonium, one of the most toxic, carcinogenic, radioactive substances in the world. This means that the federal government will be transporting plutonium into neighborhoods in order to prop up and subsidize a failing nuclear power industry. You also realize that the production of mixed oxide fuel will result in enormous new quantities of radioactive and chemical wastes that will present significant additional disposal problems and unknown costs. The Department of Energy should be developing plutonium immobilization technologies not endangering the public as well as draining our assets to promote a failed foreign business.

Companies such as BNFL and Cogema cannot be trusted to handle US plutonium disposition. BNFL, besides being responsible for the radioactive North Sea, is a key partner in Urenco, a uranium enrichment consortium. It was top-secret Urenco uranium enrichment technology that formed the basis of Iraqis clandestine efforts to attain nuclear weapons capability. This is not the kind of company that should be handling the most sensitive nuclear material in the United States. There are no reactors in England interested in MOX fuel. 2

Cogema is undergoing severe criticism and scrutiny in France, where it was revealed in the Spring of 1997 that the area near its La Hague reprocessing plant is highly radioactively-polluted and has caused excess childhood cancers. Continued radiation monitoring in the area has found continued high radiation levels, and local beaches were closed during the summer season.

Here in South Carolina, we already have massive environmental problems from the Savannah River Site. Our ground water is contaminated, the food chain has been contaminated (radioactive fish, turtles and four legged owls). DuPont and Westinghouse both had visions of grandeur and failed miserably in the nuclear waste department, leaving a massive cleanup bill for the taxpayer. Duke power wants to experiment with MOX and have the taxpayer subsidize them and then pay higher rates for electricity in a time when deregulation and energy efficiency makes nuclear power the most expensive fuel there is. Mixing plutonium with taxpayers money is not a sound business decision., the people and the environment deserve better- 3
do the right thing, STOP MOX.

Thank you

Claude Gilbert, Jr.

MD184

MD184–1 **MOX Approach**

DOE acknowledges the commentor's opposition to the MOX approach. DOE has identified as its preferred alternative the hybrid approach. Pursuing both immobilization and MOX fuel fabrication provides the United States important insurance against potential disadvantages of implementing either approach by itself. The hybrid approach also provides the best opportunity for U.S. leadership in working with Russia to implement similar options for reducing Russia's excess plutonium in parallel. Further, it sends the strongest possible signal to the world of U.S. determination to reduce stockpiles of surplus plutonium as quickly as possible and in a manner that would make it technically difficult to use the plutonium in nuclear weapons again.

U.S. policy dating back to the Ford Administration has prohibited the commercial, chemical reprocessing and separation of plutonium from spent nuclear fuel. The use of U.S. surplus plutonium in existing domestic, commercial reactors does not involve reprocessing (reprocessing is a chemical separation of uranium, transuranic elements [including plutonium], and fission products from spent reactor fuel and the reuse of the plutonium and uranium to produce new fresh fuel). The proposed use of MOX fuel is consistent with the U.S. nonproliferation policy and would ensure that plutonium which was produced for nuclear weapons and subsequently declared excess to national security needs is never again used for nuclear weapons. In keeping with the U.S. policy of discouraging the civilian use of plutonium, a MOX facility would be built and operated subject to the following strict conditions: construction would take place at a secure DOE site, it would be owned by the U.S. Government, operations would be limited exclusively to the disposition of U.S. surplus plutonium, and the MOX facility would be shut down at the completion of the surplus plutonium disposition program. In addition, the MOX facility would be open to international inspections.

Transportation would be required for both the immobilization and MOX approaches to surplus plutonium disposition. Transportation of special nuclear materials, including fresh MOX fuel, would use DOE's SST/SGT system. Since the establishment of the DOE Transportation Safeguards Division in 1975, the SST/SGT system has transported DOE-owned cargo over more than 151 million km (94 million mi) with no accidents causing a

fatality or release of radioactive material. The transportation requirements for the surplus plutonium disposition program are also evaluated in this SPD EIS. Transportation impacts of the MOX approach are summarized in Chapter 4 of Volume I and Appendix L.

Although cost will be a factor in the decisionmaking process, this SPD EIS contains environmental impact data and does not address the costs associated with the various alternatives. A separate cost report, *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998), which analyzes the site-specific cost estimates for each alternative, was made available around the same time as the SPD Draft EIS. This report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, are available on the MD Web site at http://www.doe-md.com and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C. Decisions on the surplus plutonium disposition program will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input.

MD184–2 **Other**

DOE acknowledges the commentor's concerns.

MD184–3 **MOX Approach**

Use of MOX fuel in domestic, commercial reactors is not proposed in order to subsidize the commercial nuclear power industry. Rather, the purpose of this proposed action is to safely and securely disposition surplus plutonium by meeting the Spent Fuel Standard. The Spent Fuel Standard, as identified by NAS and modified by DOE, is to make the surplus weapons-usable plutonium as inaccessible and unattractive for weapons use as the much larger and growing quantity of plutonium that exists in spent nuclear fuel from commercial power reactors.

Surplus Plutonium Disposition Draft EIS Public Comment
Charles R. Goergen
510 Boardman Road
Aiken, South Carolina 29803

With 23 years of nuclear experience in working with all isotopic classes of plutonium, my areas of expertise include plutonium chemistry, chemical separations processing, and radioanalytical techniques. In 1994 while on loan to DOE-HQ, Office of Nuclear Weapons, I served on the Plutonium ES&H Vulnerability Assessment participating in the Pantex Working Group Assessment Team as the plutonium technology/process safety expert where I spent a total of one month at the Pantex Site. As a result of that experience I have serious concerns for Pantex being the Site chosen for the Surplus Plutonium Disposition pit conversion mission.

That vulnerability assessment took a time slice for current missions. In 1994 direct work with unclad plutonium was not included. All plutonium was encased in sources or pits with the exception of some lab reference solutions. There have only been a few occasions where Pantex has had plutonium exposed to air. In the most recent case, the design agency was called in to actually autopsy the pit and deal with the resultant materials.

During my experience at Pantex I made the following observations:

- There was no workforce experience base of unclad plutonium handling operations. Operations, maintenance, Radcon, and engineering need to be familiar and knowledgeable of possible hazards. Precautions centered on maintaining the integrity of the cladding with emergency responses to reestablish containment. There was no experience with releases of plutonium. Technical assistance by the design labs was available but not easily accessed. 1

- Personnel knowledge of the properties of plutonium focused on penetrating radiation exposure. Appreciation for the form was lacking, for example: α or δ phase metal, particle size distribution of oxide, nitrate or hydroxide solutions, Pu-238 or Pu-239 isotopic distribution. Intimate knowledge of plutonium characteristics and familiarity of operations is vital to success of this defined endeavor.

- Nuclear Criticality had been analyzed to be incredible for pit systems at Pantex. As soon as the pit is deconformed and converted to another geometry, the criticality implications, analyses, controls, alarms, emergency response procedures and facilities must then be addressed. This would involve an extensive control system.

- Radiological contamination controls need to deal with potential contamination levels of millions of dpm alpha. Techniques to work with and handle this level of radioactivity, measurement, and decontamination methodology are learned through experience. Anti-contamination techniques such as radiological clothing/personal protective equipment need to have been mastered. Ventilation systems require

SCD05

SCD05–1 **Alternatives**

DOE acknowledges the commentor's opposition to siting the pit conversion facility at Pantex. Experienced workers would be used, and specific training would be provided to all workers involved in the surplus plutonium disposition program. As indicated in the revised Section 1.6, SRS is preferred for the pit conversion facility because the site has extensive experience with plutonium processing, and the pit conversion facility complements existing missions and takes advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

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maintenance programs for HEPA filters, fans, and ductwork. Handling of ancillary materials such as tools, transuranic waste, low level waste, and laundry are not inconsequential tasks.

- Shielding will need to be added for (α, n) reactions to be encountered and the Am-241 in aged plutonium.

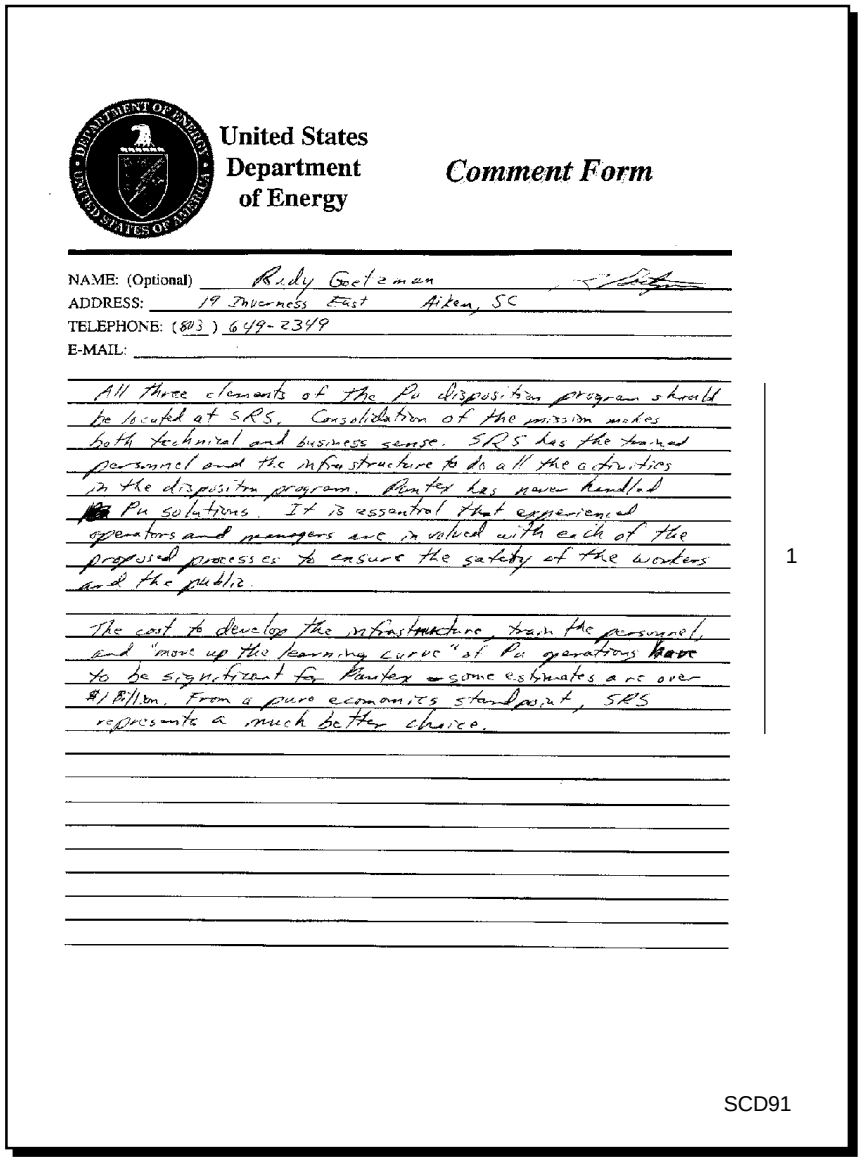
- Use of containments such as work in gloveboxes is difficult and requires extensive practice and experience to gain proficiency.

I urge the Department to give weighted consideration to the experience of the workforce in plutonium handling. This goes for design input/review, facility operability, and knowledge. This is not something that can be learned easily from a book but requires familiarity with the potential hazards of the actinides to be encountered. In day-to-day operations there will be difficulties that require immediate technical engineering input and observation. Currently, design agencies provide long distance support. 1

While the Pantex Site has done an outstanding job in their mission of weapons assembly/disassembly and storage and handling of high explosives, it remains what a DOE official once called it, "a screw and glue factory". Design, construction, and operation of plutonium handling facilities are a different type of work requiring an experience base that is lacking at Pantex.

SCD05

GOETZMAN, RUDY
PAGE 1 OF 1



United States Department of Energy

Comment Form

NAME: (Optional) Rudy Goetzman
ADDRESS: 19 Inverness East Aiken, SC
TELEPHONE: (803) 649-2349
E-MAIL:

All three elements of the Pu disposition program should be located at SRS. Consolidation of the mission makes both technical and business sense. SRS has the trained personnel and the infrastructure to do all the activities in the disposition program. Hanford has never handled Pu solutions. It is essential that experienced operators and managers are involved with each of the proposed processes to ensure the safety of the workers and the public.

The cost to develop the infrastructure, train the personnel, and "move up the learning curve" at Pu operations have to be significant for Hanford - some estimates are over $1 Billion. From a pure economics standpoint, SRS represents a much better choice.

1

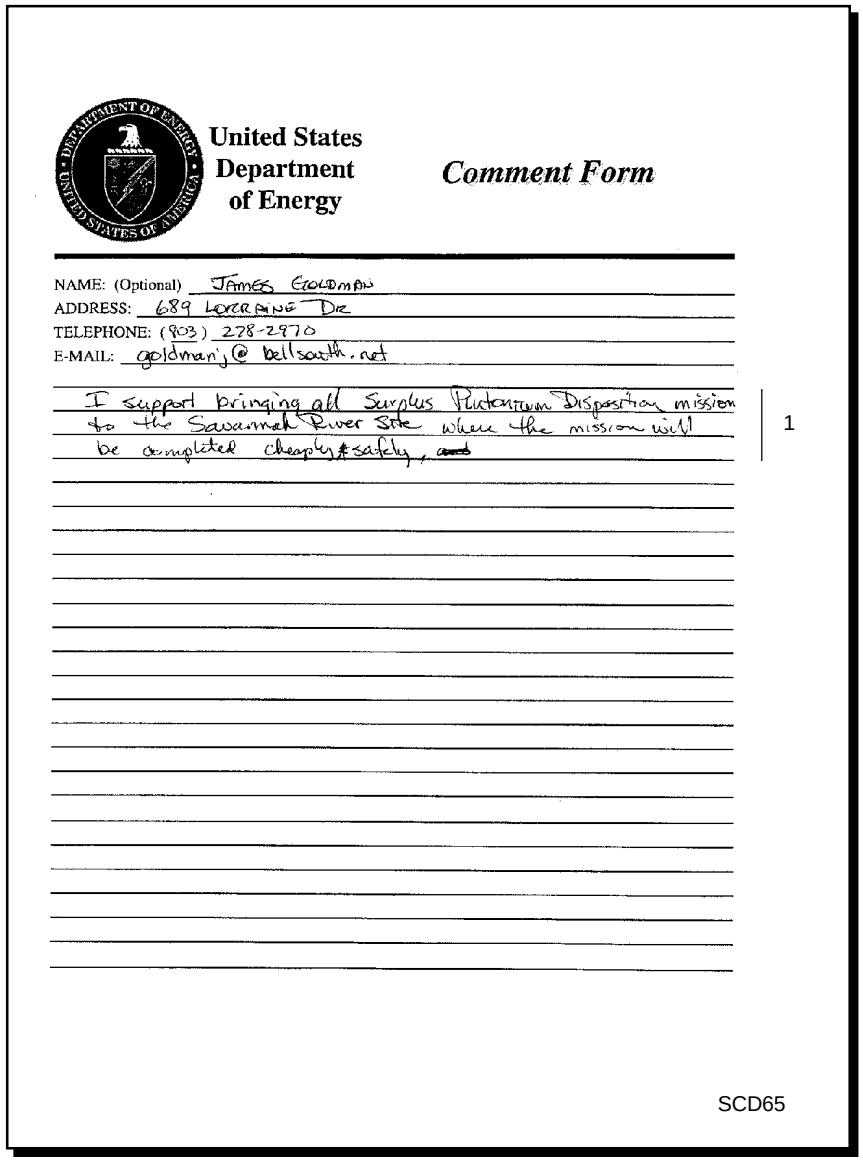
SCD91

SCD91–1 **Alternatives**

DOE acknowledges the commentor's support for siting the proposed surplus plutonium disposition facilities at SRS. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure.

Although cost will be a factor in the decisionmaking process, this SPD EIS contains environmental impact data and does not address the costs associated with the various alternatives. A separate cost report, *Cost Analysis in Support of Site Selection for Surplus Weapons-Usable Plutonium Disposition* (DOE/MD-0009, July 1998), which analyzes the site-specific cost estimates for each alternative, was made available around the same time as the SPD Draft EIS. This report and the *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, are available on the MD Web site at http://www.doe-md.com and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

GOLDMAN, JAMES
PAGE 1 OF 1



United States Department of Energy

Comment Form

NAME: (Optional) JAMES GOLDMAN
ADDRESS: 689 LORRAINE DR
TELEPHONE: (803) 278-2970
E-MAIL: goldmanj@bellsouth.net

I support bringing all Surplus Plutonium Disposition mission to the Savannah River Site where the mission will be completed cheaply & safely. ~~and~~ 1

SCD65

SCD65–1 **Alternatives**

DOE acknowledges the commentor's support for siting the proposed surplus plutonium disposition facilities at SRS. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

GREATER NORTH AUGUSTA CHAMBER OF COMMERCE
CHUCK SMITH
PAGE 1 OF 1

I am Chuck Smith and I am here on behalf of the Greater North Augusta Chamber of Commerce. I live in North Augusta as do many people that are touched by the Savannah River Site on a daily basis.

The people at SRS and the CSRA contributed to our Nation's nuclear deterrent efforts for over four decades and now these same people are prepared to take on the new, critical mission of plutonium disposition. Why would DOE consider another possible site for this mission? SRS has the experience, the infrastructure, the best safety numbers of the entire DOE complex and can accomplish the pit disassembly mission at a lower cost to taxpayers. DOE has previously acknowledged that SRS is uniquely qualified to handle plutonium when it named SRS as the site of choice for the Mixed Oxide Fuel Fabrication. 1

I believe that these hearings will provide overwhelming arguments as to why DOE will decide that SRS is the preferred site for the Pit Disassembly Mission.

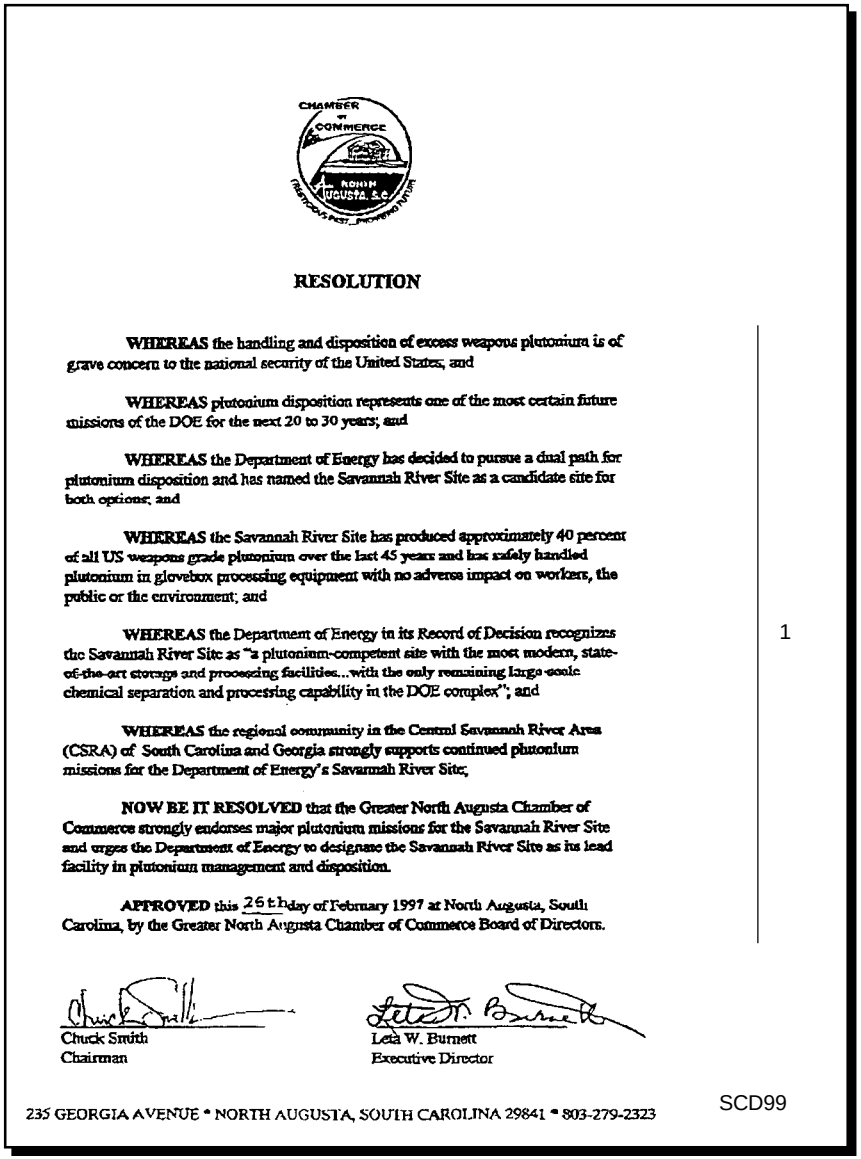
On behalf of the North Augusta Chamber of Commerce, I appreciate the opportunity to express our support for DOE to place this mission at the Savannah River Site.

SCD59

SCD59–1 **Alternatives**

DOE acknowledges the commentor's support for siting the pit conversion facility at SRS. As indicated in the revised Section 1.6, SRS is preferred for the pit conversion facility because the site has extensive experience with plutonium processing, and the pit conversion facility complements existing missions and takes advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

GREATER NORTH AUGUSTA CHAMBER OF COMMERCE
CHUCK SMITH ET AL.
PAGE 1 OF 1



RESOLUTION

WHEREAS the handling and disposition of excess weapons plutonium is of grave concern to the national security of the United States; and

WHEREAS plutonium disposition represents one of the most certain future missions of the DOE for the next 20 to 30 years; and

WHEREAS the Department of Energy has decided to pursue a dual path for plutonium disposition and has named the Savannah River Site as a candidate site for both options; and

WHEREAS the Savannah River Site has produced approximately 40 percent of all US weapons grade plutonium over the last 45 years and has safely handled plutonium in glovebox processing equipment with no adverse impact on workers, the public or the environment; and

WHEREAS the Department of Energy in its Record of Decision recognizes the Savannah River Site as "a plutonium-competent site with the most modern, state-of-the-art storage and processing facilities...with the only remaining large-scale chemical separation and processing capability in the DOE complex"; and

WHEREAS the regional community in the Central Savannah River Area (CSRA) of South Carolina and Georgia strongly supports continued plutonium missions for the Department of Energy's Savannah River Site;

NOW BE IT RESOLVED that the Greater North Augusta Chamber of Commerce strongly endorses major plutonium missions for the Savannah River Site and urges the Department of Energy to designate the Savannah River Site as its lead facility in plutonium management and disposition.

APPROVED this 26th day of February 1997 at North Augusta, South Carolina, by the Greater North Augusta Chamber of Commerce Board of Directors.

Chuck Smith
Chairman

Leta W. Burnett
Executive Director

235 GEORGIA AVENUE • NORTH AUGUSTA, SOUTH CAROLINA 29841 • 803-279-2323

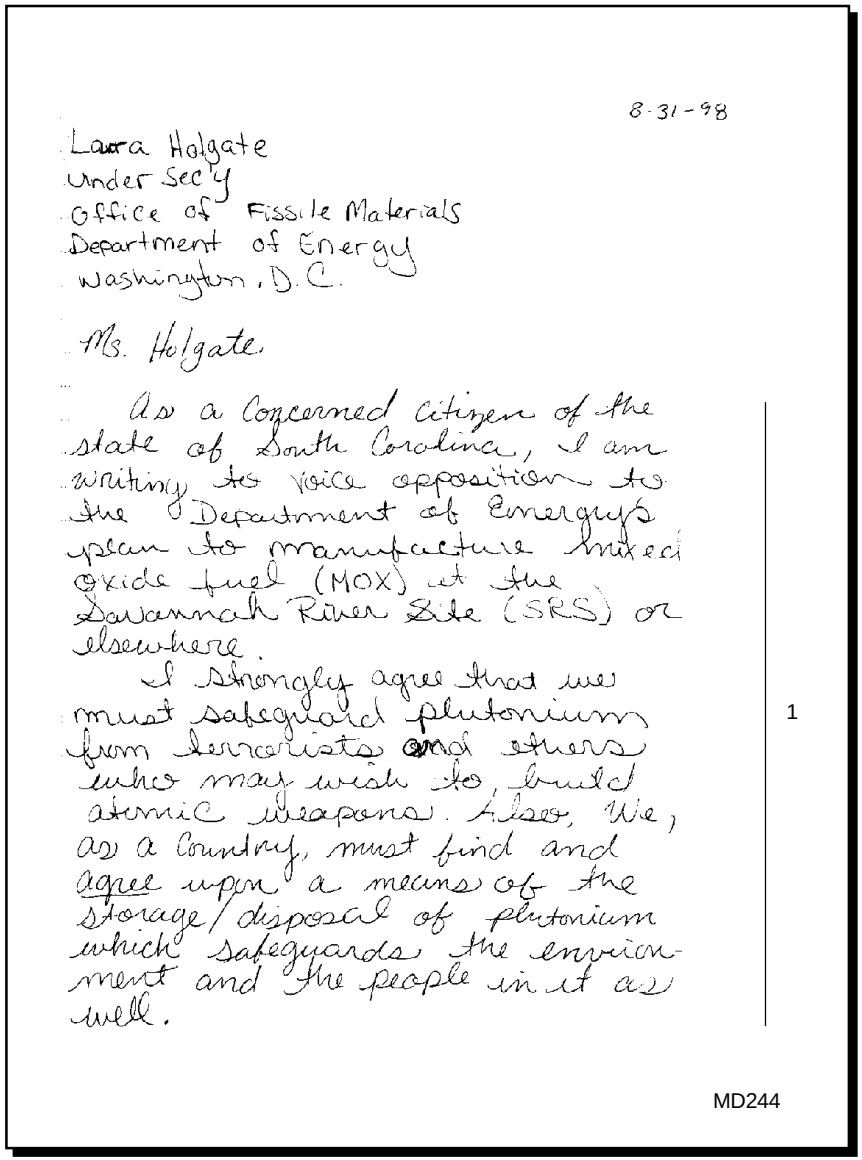
SCD99

1

SCD99–1 **Alternatives**

DOE acknowledges the commentors' support for siting the surplus plutonium disposition facilities at SRS. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

HARDISON, KAREN G.
PAGE 1 OF 3



8-31-98

Laura Holgate
Under Sec'y
Office of Fissile Materials
Department of Energy
Washington, D.C.

Ms. Holgate,

As a Concerned Citizen of the state of South Carolina, I am writing to voice opposition to the Department of Energy's plan to manufacture mixed oxide fuel (MOX) at the Savannah River Site (SRS) or elsewhere.

I Strongly agree that we must safeguard plutonium from terrorists and others who may wish to build atomic weapons. Also, We, as a Country, must find and agree upon a means of the storage/disposal of plutonium which safeguards the environment and the people in it as well.

1

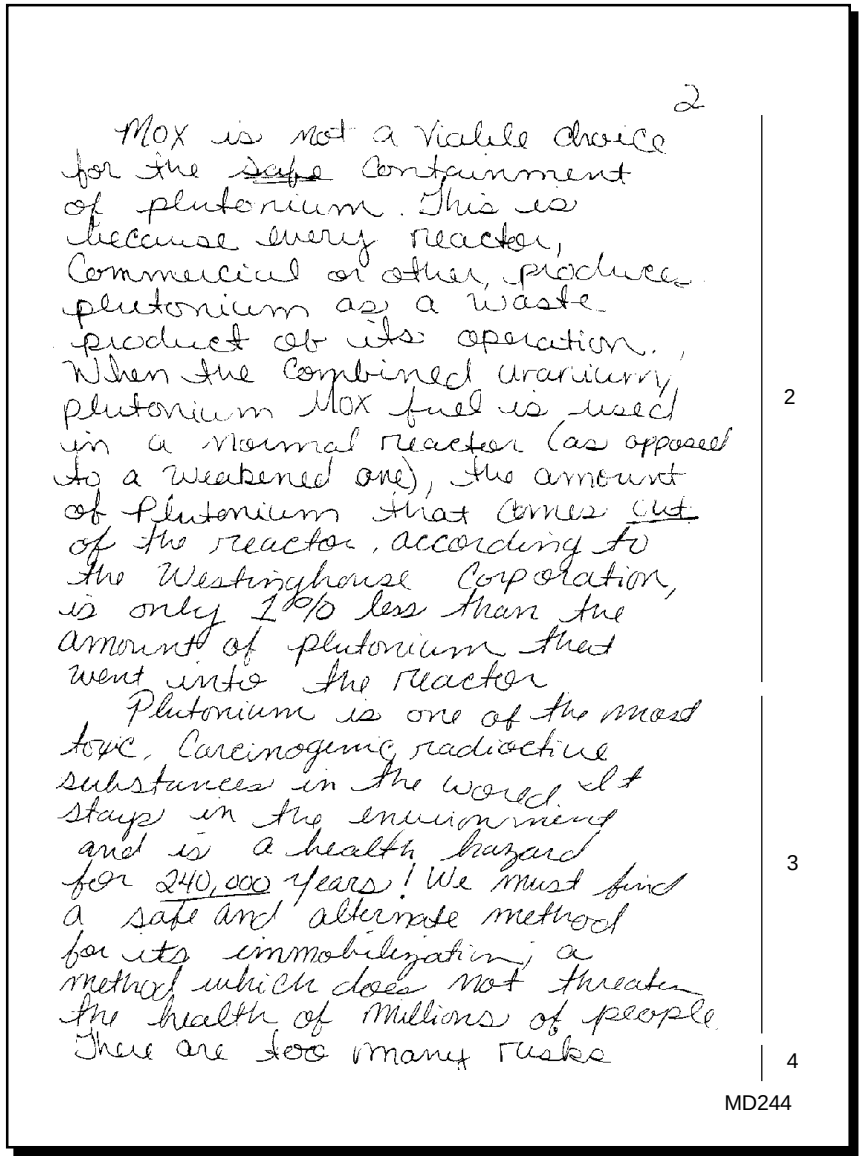
MD244

MD244–1 **Alternatives**

DOE acknowledges the commentor's opposition to the MOX approach. However, DOE has identified as its preferred alternative the hybrid approach. Pursuing both immobilization and MOX fuel fabrication provides the United States important insurance against potential disadvantages of implementing either approach by itself. The hybrid approach also provides the best opportunity for U.S. leadership in working with Russia to implement similar options for reducing Russia's excess plutonium in parallel. Further, it sends the strongest possible signal to the world of U.S. determination to reduce stockpiles of surplus plutonium as quickly as possible and in a manner that would make it technically difficult to use the plutonium in nuclear weapons again.

The DOE disposition facilities proposed in this SPD EIS would be at locations where plutonium would have the levels of protection and control required by applicable DOE safeguards and security directives. Safeguards and security programs would be integrated programs of physical protection, information security, nuclear material control and accountability, and personnel assurance. Security for the SRS facilities would be implemented commensurate with the usability of the material in a nuclear weapon or improvised nuclear device. SRS has sitewide security services. Physical barriers; access control systems; detection and alarm systems; procedures, including the two-person rule (which requires at least two people to be present when working with special nuclear materials in the facility); and personnel security measures, including security clearance investigations and access authorization levels, would be used to ensure that special nuclear materials stored and processed inside are adequately protected. Closed-circuit television, intrusion detection, motion detection, and other automated materials monitoring methods would be employed. Furthermore, the physical protection, safeguards, and security for the MOX facility and domestic, commercial reactors would be in compliance with NRC regulations.

HARDISON, KAREN G.
PAGE 2 OF 3



2

MOX is not a viable choice for the ~~safe~~ containment of plutonium. This is because every reactor, Commercial or other, produces plutonium as a waste product of its operation. When the combined uranium/plutonium MOX fuel is used in a normal reactor (as opposed to a weakened one), the amount of Plutonium that comes out of the reactor, according to the Westinghouse Corporation, is only 1% less than the amount of plutonium that went into the reactor.

Plutonium is one of the most toxic, Carcinogenic radioactive substances in the world. It stays in the environment and is a health hazard for 240,000 years! We must find a safe and alternate method for its immobilization, a method which does not threaten the health of Millions of people. There are too many risks

2

3

4

MD244

MD244–2 **MOX Approach**

The goal of the surplus plutonium disposition program is to reduce the threat of nuclear weapons proliferation worldwide by conducting disposition of surplus plutonium in the United States in an environmentally safe and timely manner. The purpose of the MOX approach is to convert surplus plutonium to a form that meets the Spent Fuel Standard, thereby providing evidence of irreversible disarmament and establishing a model for proliferation resistance. The Spent Fuel Standard, as identified by NAS and modified by DOE, is to make the surplus weapons-usable plutonium as inaccessible and unattractive for weapons use as the much larger and growing quantity of plutonium that exists in spent nuclear fuel from commercial power reactors. While it is true that not all the plutonium would be consumed during irradiation in a nuclear reactor, the resulting spent fuel would have a radiation barrier equivalent to LEU spent fuel, and recovery of this plutonium would be extremely dangerous, time consuming, and costly.

MD244–3 **Immobilization**

In the *Immobilization Technology Down-Selection Radiation Barrier Approach* (UCRL-ID-127320, May 1997), LLNL recommended that DOE pursue only the can-in-canister immobilization approach based upon its superiority to the homogenous approaches in terms of timeliness, higher technical viability, lower costs, and to a lesser extent, lower environmental and health risks. Based on further recommendations from a committee of experts representing DOE, the national laboratories, and outside reviewers, DOE subsequently determined that immobilizing surplus plutonium materials would be best accomplished using the ceramic can-in-canister approach. NAS is currently conducting studies to confirm the ability of the ceramic can-in-canister immobilization approach to meet the Spent Fuel Standard. The immobilization process is further discussed in Section 2.4.2.2.2.

MD244–4 **Transportation**

As indicated in Section 2.18, no traffic fatalities from nonradiological accidents or LCFs from radiological exposures or vehicle emissions are expected. Transportation would be required for both the immobilization and MOX approaches to surplus plutonium disposition. Transportation of special

HARDISON, KAREN G.
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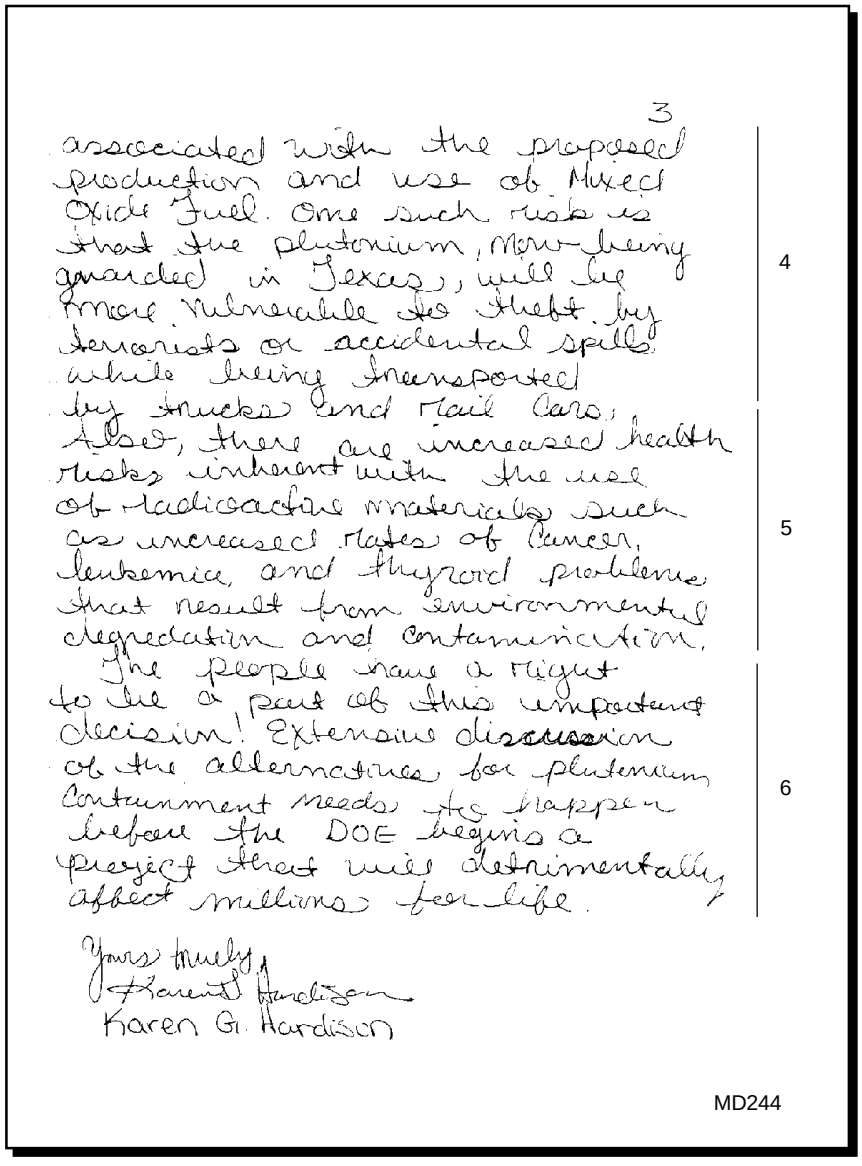


3

associated with the proposed production and use of Mixed Oxide Fuel. One such risk is that the plutonium, now being guarded in Texas, will be more vulnerable to theft by terrorists or accidental spills while being transported by trucks and rail cars. Also, there are increased health risks inherent with the use of radioactive materials such as increased rates of cancer, leukemia, and thyroid problems that result from environmental degredation and contamination. The people have a right to be a part of this important decision! Extensive discussion of the alternatives for plutonium containment needs to happen before the DOE begins a project that will detrimentally affect millions for life.

4

5

6

Yours truly,
Karen G. Hardison
Karen G. Hardison

MD244

nuclear materials, including fresh MOX fuel, would use DOE's SST/SGT system. Since the establishment of the DOE Transportation Safeguards Division in 1975, the SST/SGT system has transported DOE-owned cargo over more than 151 million km (94 million mi) with no accidents causing a fatality or release of radioactive material, and no material has been diverted by terrorists. Section 2.4.4 and Appendix L describe DOE's transportation and material protection activities.

MD244–5 **Human Health Risk**

This SPD EIS identifies and analyzes potential human health impacts that might result from construction and operation of the proposed surplus plutonium disposition facilities. The Human Health Risk and Facility Accidents sections in Chapter 4 of Volume I discuss the effects on the public of potential radiological releases. DOE policy places public safety above other program goals, and requirements have been established to protect the safety and health of the public. DOE considers the protection of the public against accidents in the design, location, construction, and operation of its facilities.

MD244–6 **General SPD EIS and NEPA Process**

Since the inception of the fissile materials disposition program, DOE has supported a vigorous public participation policy. It has conducted public hearings in excess of the minimum required by NEPA regulations to engender a high level of public dialogue on the program. Hearings on this SPD EIS were held in Washington, Texas, South Carolina, Oregon, Idaho, and Washington, D.C. The office has also provided the public with substantial information in the form of fact sheets, reports, exhibits, visual aids, and videos related to fissile materials disposition issues. It hosts frequent workshops, and senior staff members make presentations to local and national civic and social organizations on request. Additionally, various means of communication—mail, a toll-free telephone and fax line, and a Web site (http://www.doe-md.com)—have been provided to facilitate the public dialogue. It is DOE policy to encourage public input into these matters of national and international importance.

HELMS, LOIS
PAGE 1 OF 1

I wanted to register an opinion. My name is Lois Helms. I live in Winnsboro, South Carolina. I'm opposed to the plans for a MOX plant at the Savannah River Site. I think it's a hazardous program and has many short comings and is being rushed through without efficiency. 1

PD043

PD043–1 **Alternatives**

DOE acknowledges the commentor's opposition to siting the MOX facility at SRS. This SPD EIS analyzes the potential environmental impacts associated with implementing the proposed surplus plutonium disposition activities at the candidate sites. The results of these analyses, presented in Chapter 4 of Volume I and summarized in Section 2.18, demonstrate that the activities would not have major impacts at any of those sites including SRS.

As indicated in Section 1.6, SRS is preferred for the MOX facility because this activity complements existing missions and takes advantage of existing infrastructure and staff expertise. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

JOHNSON, STEPHEN A.
PAGE 1 OF 1

United States Department of Energy

Comment Form

NAME: (Optional) STEPHEN A. JOHNSON
ADDRESS: 213 CUO VINA DRIVE AIKEN, SC 29803
TELEPHONE: (803) 643-0623
E-MAIL: stevenajohnson@scescape.net

If you exclude political pandering, SRS is the only possible choice for the consolidation of all Plutonium disposition mission.

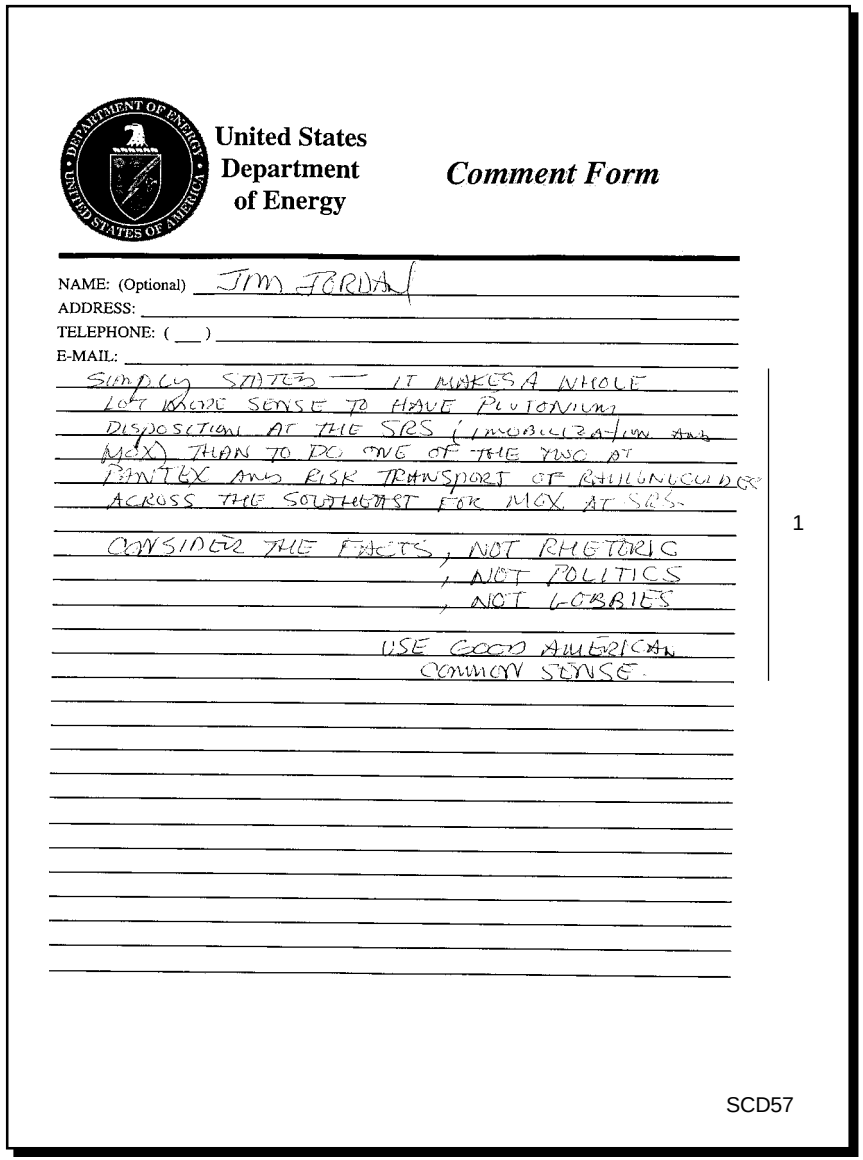
1

SCD63

SCD63–1 **Alternatives**

DOE acknowledges the commentor's support for siting the proposed surplus plutonium disposition facilities at SRS. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

JORDAL, JIM
PAGE 1 OF 1



United States Department of Energy

Comment Form

NAME: (Optional) JIM JORDAL
ADDRESS:
TELEPHONE: ( )
E-MAIL:

SIMPLY STATED — IT MAKES A WHOLE LOT MORE SENSE TO HAVE PLUTONIUM DISPOSITION AT THE SRS (IMMOBILIZATION AND MOX) THAN TO DO ONE OF THE TWO AT PANTEX AND RISK TRANSPORT OF RADIONUCLIDES ACROSS THE SOUTHEAST FOR MOX AT SRS.

CONSIDER THE FACTS, NOT RHETORIC
, NOT POLITICS
, NOT LOBBIES

USE GOOD AMERICAN COMMON SENSE.

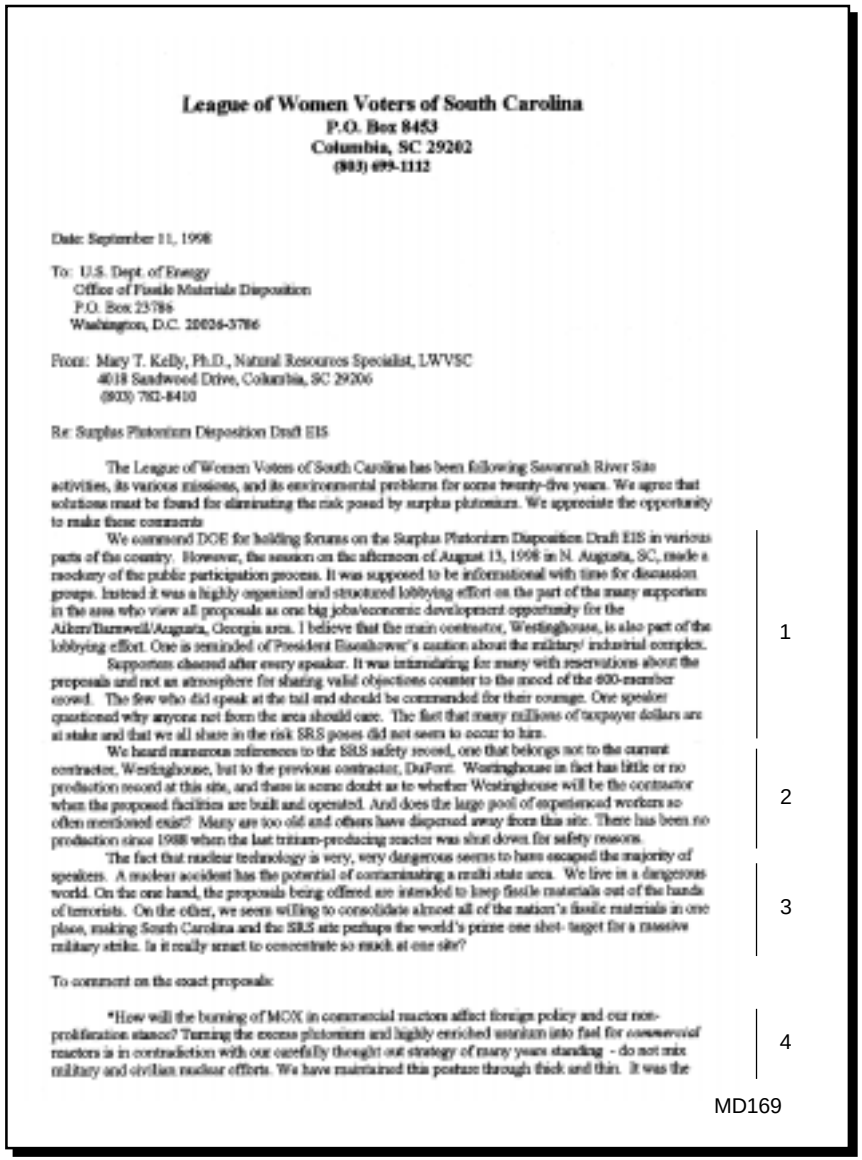
1

SCD57

SCD57–1 **Alternatives**

DOE acknowledges the commentor's support for siting the proposed surplus plutonium disposition facilities at SRS. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

LEAGUE OF WOMEN VOTERS OF SOUTH CAROLINA
MARY T. KELLY
PAGE 1 OF 5



League of Women Voters of South Carolina
P.O. Box 8453
Columbia, SC 29202
(803) 699-1112

Date: September 11, 1998

To: U.S. Dept. of Energy
Office of Fissile Materials Disposition
P.O. Box 23786
Washington, D.C. 20026-3786

From: Mary T. Kelly, Ph.D., Natural Resources Specialist, LWVSC
4018 Sandwood Drive, Columbia, SC 29206
(803) 782-8410

Re: Surplus Plutonium Disposition Draft EIS

The League of Women Voters of South Carolina has been following Savannah River Site activities, its various missions, and its environmental problems for some twenty-five years. We agree that solutions must be found for eliminating the risk posed by surplus plutonium. We appreciate the opportunity to make these comments.

We commend DOE for holding forums on the Surplus Plutonium Disposition Draft EIS in various parts of the country. However, the session on the afternoon of August 13, 1998 in N. Augusta, SC, made a mockery of the public participation process. It was supposed to be informational with time for discussion groups. Instead it was a highly organized and structured lobbying effort on the part of the many supporters in the area who view all proposals as one big jobs/economic development opportunity for the Aiken/Barnwell/Augusta, Georgia area. I believe that the main contractor, Westinghouse, is also part of the lobbying effort. One is reminded of President Eisenhower's caution about the military/ industrial complex.

Supporters cheered after every speaker. It was intimidating for many with reservations about the proposals and not an atmosphere for sharing valid objections counter to the mood of the 600-member crowd. The few who did speak at the tail end should be commended for their courage. One speaker questioned why anyone not from the area should care. The fact that many millions of taxpayer dollars are at stake and that we all share in the risk SRS poses did not seem to occur to him. 1

We heard numerous references to the SRS safety record, one that belongs not to the current contractor, Westinghouse, but to the previous contractor, DuPont. Westinghouse in fact has little or no production record at this site, and there is some doubt as to whether Westinghouse will be the contractor when the proposed facilities are built and operated. And does the large pool of experienced workers so often mentioned exist? Many are too old and others have dispersed away from this site. There has been no production since 1988 when the last tritium-producing reactor was shut down for safety reasons. 2

The fact that nuclear technology is very, very dangerous seems to have escaped the majority of speakers. A nuclear accident has the potential of contaminating a multi state area. We live in a dangerous world. On the one hand, the proposals being offered are intended to keep fissile materials out of the hands of terrorists. On the other, we seem willing to consolidate almost all of the nation's fissile materials in one place, making South Carolina and the SRS site perhaps the world's prime one shot- target for a massive military strike. Is it really smart to concentrate so much at one site? 3

To comment on the exact proposals:

*How will the burning of MOX in commercial reactors affect foreign policy and our non-proliferation stance? Turning the excess plutonium and highly enriched uranium into fuel for *commercial* reactors is in contradiction with our carefully thought out strategy of many years standing - do not mix military and civilian nuclear efforts. We have maintained this posture through thick and thin. It was the 4

MD169

MD169–1 **General SPD EIS and NEPA Process**

DOE acknowledges the commentor's concerns about the public hearings for discussion of the surplus plutonium disposition program. DOE believes that the hearing in question was objective and open; everyone who attended was provided an opportunity to comment orally or in writing. Moreover, all comments submitted were given equal consideration relative to the preparation of this SPD EIS.

MD169–2 **Other**

The management and operations contractor for SRS is required to operate the site in compliance with applicable laws and regulations, including DOE environmental, safety, and health directives. If DOE implements alternatives for the disposition of surplus plutonium that result in the construction and operation of facilities at SRS, compliance with applicable laws and regulations would apply to the management and operations contractor regardless of the contractor's previous experience.

As discussed in Section 3.5, operational reactors at SRS have been shut down. Active missions at the site are summarized in Table 3–38. Workers in safety-sensitive positions at SRS must satisfy DOE's qualifications for such positions. As discussed throughout Chapter 4 of Volume I, implementation of alternatives that would result in construction of new facilities at SRS would have no major impact on the regional workforce.

MD169–3 **DOE Policy**

The scope of this SPD EIS is focused on analysis of alternatives on weapons-usable plutonium that has been declared surplus to national security needs. It does not address nonsurplus plutonium (e.g., strategic reserves) or other fissile materials such as HEU, which would continue to be stored at sites other than SRS. Therefore, all material would not be concentrated at SRS.

The Facility Accidents sections in Chapter 4 of Volume I summarize accident analyses for SRS. Details are provided in Appendix K.

The proposed DOE surplus plutonium disposition facilities are all at locations where plutonium would have the levels of protection and control required by applicable DOE safeguards and security directives. Safeguards and security programs would be integrated programs of physical protection, information security, nuclear material control and accountability, and personnel assurance. Security for the SRS facilities would be implemented commensurate with the usability of the material in a nuclear weapon or improvised nuclear device. SRS has sitewide security services. Physical barriers; access control systems; detection and alarm systems; procedures, including the two-person rule (which requires at least two people to be present when working with special nuclear materials in the facility); and personnel security measures, including security clearance investigations and access authorization levels, would be used to ensure that special nuclear materials stored and processed inside are adequately protected. Closed-circuit television, intrusion detection, motion detection, and other automated materials monitoring methods would be employed. Furthermore, the physical protection, safeguards, and security for the MOX facility and domestic, commercial reactors would be in compliance with NRC regulations. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical cost reports, national policy and nonproliferation considerations, and public input.

MD169–4 **Nonproliferation**

The goal of the surplus plutonium disposition program is to reduce the threat of nuclear weapons proliferation worldwide by conducting disposition of surplus plutonium in the United States in an environmentally safe and timely manner. Converting the surplus plutonium into MOX fuel and using it in domestic, commercial reactors is an effective way to accomplish this. Consistent with the U.S. policy of discouraging the civilian use of plutonium, a MOX facility would be built and operated subject to the following strict conditions: construction would take place at a secure DOE site, it would be owned by the U.S. Government, operations would be limited exclusively to the disposition of surplus plutonium, and the MOX facility would be shut down at the completion of the surplus plutonium disposition program. For reactor irradiation, the NRC license would authorize only the participating reactors to use MOX fuel fabricated from surplus plutonium, and the irradiation

LEAGUE OF WOMEN VOTERS OF SOUTH CAROLINA
MARY T. KELLY
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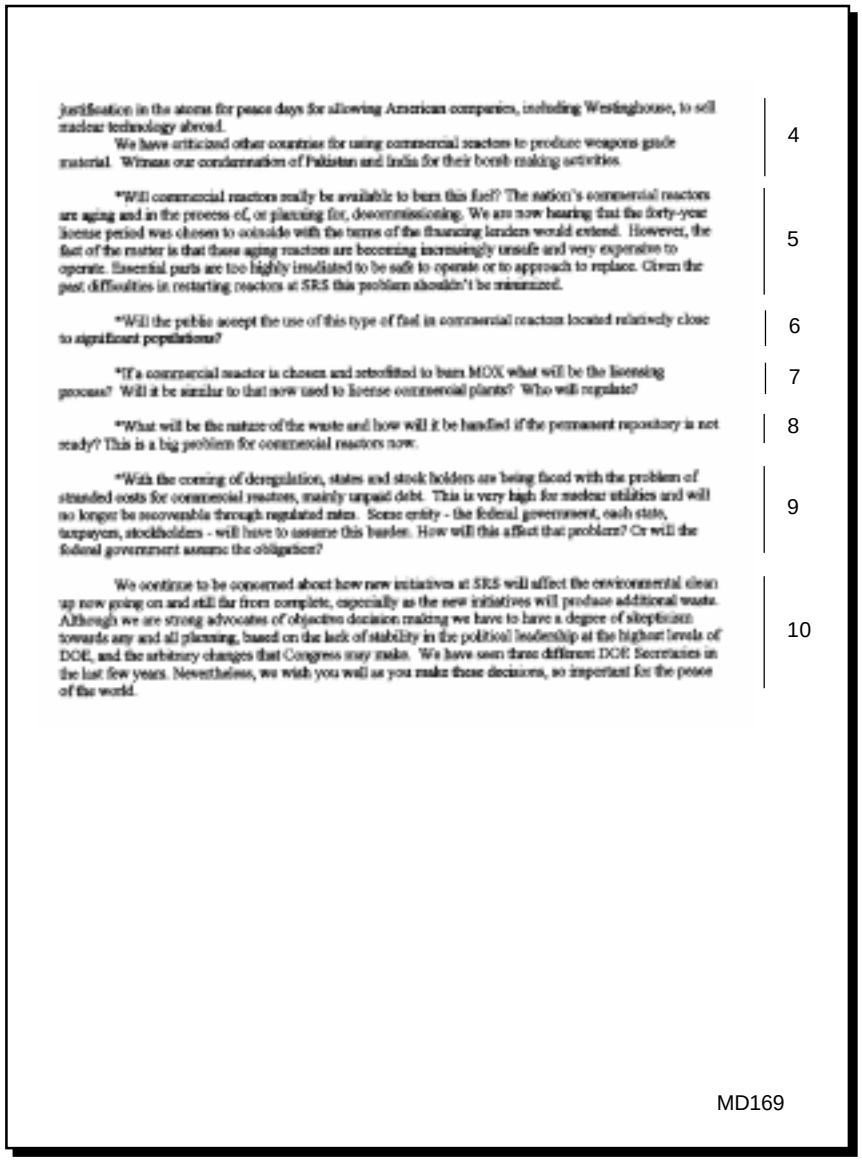


justification in the storm for peace days for allowing American companies, including Westinghouse, to sell nuclear technology abroad.
We have criticized other countries for using commercial reactors to produce weapons grade material. Witness our condemnation of Pakistan and India for their bomb making activities. 4

*Will commercial reactors really be available to burn this fuel? The nation's commercial reactors are aging and in the process of, or planning for, decommissioning. We are now hearing that the forty-year license period was chosen to coincide with the terms of the financing lenders would extend. However, the fact of the matter is that these aging reactors are becoming increasingly unsafe and very expensive to operate. Essential parts are too highly irradiated to be safe to operate or to approach to replace. Given the past difficulties in restarting reactors at SRS this problem shouldn't be minimized. 5

*Will the public accept the use of this type of fuel in commercial reactors located relatively close to significant populations? 6

*If a commercial reactor is chosen and retrofitted to burn MOX what will be the licensing process? Will it be similar to that now used to license commercial plants? Who will regulate? 7

*What will be the nature of the waste and how will it be handled if the permanent repository is not ready? This is a big problem for commercial reactors now. 8

*With the coming of deregulation, states and stock holders are being faced with the problem of stranded costs for commercial reactors, mainly unpaid debt. This is very high for nuclear utilities and will no longer be recoverable through regulated rates. Some entity - the federal government, each state, taxpayers, stockholders - will have to assume this burden. How will this affect that problem? Or will the federal government assume the obligation? 9

We continue to be concerned about how new initiatives at SRS will affect the environmental clean up now going on and still far from complete, especially as the new initiatives will produce additional waste. Although we are strong advocates of objective decision making we have to have a degree of skepticism towards any and all planning, based on the lack of stability in the political leadership at the highest levels of DOE, and the arbitrary changes that Congress may make. We have seen three different DOE Secretaries in the last few years. Nevertheless, we wish you well as you make these decisions, so important for the peace of the world. 10

MD169

would be a once-through cycle with no reprocessing. The decision on disposition of surplus HEU calls for blending down this material to LEU that is suitable for reactor use. Therefore, this uranium fuel for commercial reactors would no longer be weapons grade and would be the same as other commercial uranium fuel.

MD169–5 **MOX Approach**

DOE acknowledges the commentor's concerns regarding the use of MOX fuel in commercial reactors. Section 4.28 was revised to discuss the potential environmental impacts of operating Catawba, McGuire, and North Anna, the reactors that would use the MOX fuel. Commercial reactors in the United States are capable of safely using MOX fuel. The commercial reactors selected for the MOX approach include only those reactors whose operational life is expected to last beyond the life of the surplus plutonium disposition program. The SRS reactors are much older and predate most of the regulatory requirements to which commercial reactors are designed.

MD169–6 **NRC Licensing**

The SPD Final EIS was not issued until the proposed reactors had been identified and the public had an opportunity to comment on the reactor-specific information. As part of the procurement process, bidders were asked to provide environmental information to support their proposals. This information was analyzed in an Environmental Critique prepared for the DOE source selection board prior to award of the MOX fuel fabrication and irradiation services contract. DOE then prepared an Environmental Synopsis on the basis of the Environmental Critique, which was released to the public as Appendix P of the *Supplement to the SPD Draft EIS* in April 1999. This *Supplement* included a description of the affected environment around the three proposed reactor sites, and analyses of the potential environmental impacts of operating these reactors using MOX fuel (Sections 3.7 and 4.28 of this SPD EIS, respectively). During the 45-day period for public comment on the *Supplement*, DOE held a public hearing in Washington, D.C., on June 15, 1999, and invited comments. Responses to those comments are provided in Volume III, Chapter 4.

MD169–7 **NRC Licensing**

The regulatory process will be the same as for any request to amend a 10 CFR 50 operating license. The reactor licensee will initiate the process by submitting an amendment request to NRC in accordance with 10 CFR 50.90. Safety and environmental analyses commensurate with the level of potential impact are submitted in support of, and as part of, the amendment request. NRC reviews the submitted information and denies or approves the request. The review process may involve submittal of additional information and face-to-face meetings between the licensee and NRC, and may result in modified license amendment requests. NRC would continue to regulate the commercial reactors.

MD169–8 **Waste Management**

The characteristics of MOX spent fuel would be similar to those of LEU spent fuel. As described in Sections 2.18.3 and 4.28.2.8, additional spent fuel would be produced by using MOX fuel instead of LEU fuel in domestic, commercial reactors. Spent fuel management at the proposed reactor sites is not expected to change dramatically due to the substitution of MOX assemblies for some of the LEU assemblies. The additional spent fuel assemblies from the use of MOX fuel would not require different spent fuel storage at the reactor sites. Likewise, the additional spent fuel would be a very small fraction of the total that would be managed at the potential geologic repository. This SPD EIS assumes, for the purposes of analysis, that Yucca Mountain, Nevada, would be the final disposal site for all immobilized plutonium and MOX spent fuel. As directed by the U.S. Congress through the NWPA, as amended, Yucca Mountain is the only candidate site currently being characterized as a potential geologic repository for HLW and spent fuel. DOE has prepared a separate EIS, *Draft Environmental Impact Statement for a Geologic Repository for the Disposal of Spent Nuclear Fuel and High-Level Radioactive Waste at Yucca Mountain, Nye County, Nevada* (DOE/EIS-0250D, July 1999), which analyzes the environmental impacts from construction, operation and monitoring, related transportation, and eventual closure of a potential geologic repository.

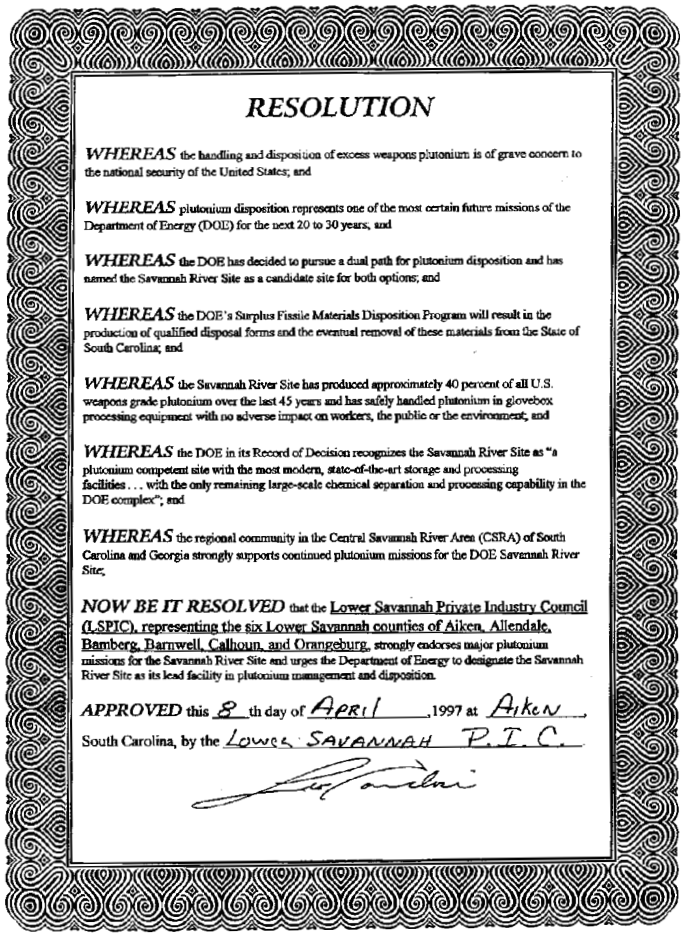
MD169–9 **Cost**

DOE would not assume any obligation for stranded costs under the alternatives for the surplus plutonium disposition program.

MD169–10 **DOE Policy**

DOE acknowledges the commentor's concern that environmental cleanup at SRS would be affected by new initiatives, especially those that would produce additional waste, DOE's changing leadership, and changes imposed by the U.S. Congress. Cleanup at SRS is still a priority, will remain a priority, and can coexist with other DOE initiatives. The surplus plutonium disposition program would be conducted in a way which ensures that cleanup remains a priority at SRS and that the production of any additional waste is processed and disposed of in a timely and environmentally acceptable manner.

LOWER SAVANNAH PRIVATE INDUSTRY COUNCIL
LEO CARDIN
PAGE 1 OF 1



RESOLUTION

WHEREAS the handling and disposition of excess weapons plutonium is of grave concern to the national security of the United States; and

WHEREAS plutonium disposition represents one of the most certain future missions of the Department of Energy (DOE) for the next 20 to 30 years, and

WHEREAS the DOE has decided to pursue a dual path for plutonium disposition and has named the Savannah River Site as a candidate site for both options; and

WHEREAS the DOE's Surplus Fissile Materials Disposition Program will result in the production of qualified disposal forms and the eventual removal of these materials from the State of South Carolina; and

WHEREAS the Savannah River Site has produced approximately 40 percent of all U.S. weapons grade plutonium over the last 45 years and has safely handled plutonium in glovebox processing equipment with no adverse impact on workers, the public or the environment; and

WHEREAS the DOE in its Record of Decision recognizes the Savannah River Site as "a plutonium competent site with the most modern, state-of-the-art storage and processing facilities . . . with the only remaining large-scale chemical separation and processing capability in the DOE complex"; and

WHEREAS the regional community in the Central Savannah River Area (CSRA) of South Carolina and Georgia strongly supports continued plutonium missions for the DOE Savannah River Site;

NOW BE IT RESOLVED that the Lower Savannah Private Industry Council (LSPIC), representing the six Lower Savannah counties of Aiken, Allendale, Bamberg, Barnwell, Calhoun, and Orangeburg, strongly endorses major plutonium missions for the Savannah River Site and urges the Department of Energy to designate the Savannah River Site as its lead facility in plutonium management and disposition.

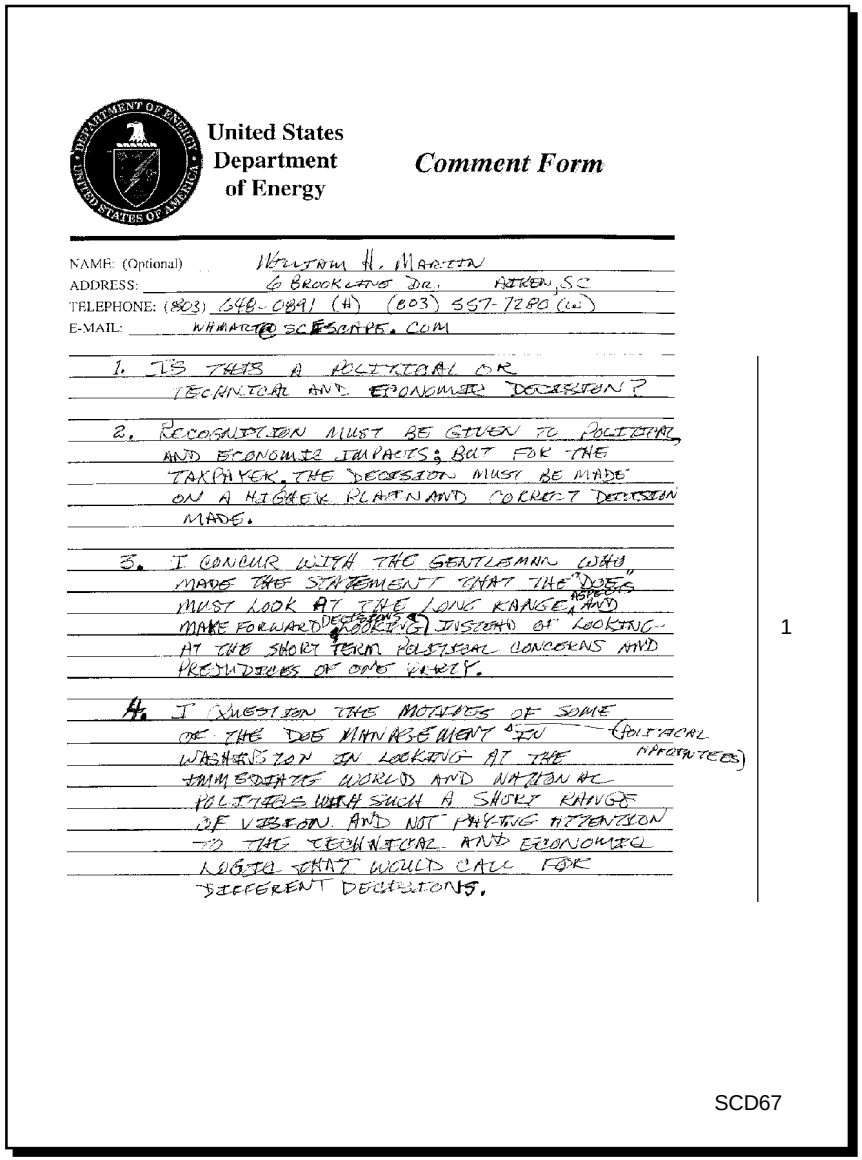
APPROVED this 8 th day of April, 1997 at Aiken, South Carolina, by the Lower Savannah P.I.C.

1

SCD101

SCD101–1 **Alternatives**

DOE acknowledges the commentor's support for siting the proposed surplus plutonium disposition facilities at SRS. As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.



United States Department of Energy

Comment Form

NAME: (Optional) William H. Martin
ADDRESS: 6 Brooklane Dr. Aiken, SC
TELEPHONE: (803) 648-0841 (H) (803) 557-7280 (W)
E-MAIL: WHMART@SCESCAPE.COM

1. IS THIS A POLITICAL OR TECHNICAL AND ECONOMIC DECISION?

2. RECOGNITION MUST BE GIVEN TO POLITICAL AND ECONOMIC IMPACTS; BUT FOR THE TAXPAYER, THE DECISION MUST BE MADE ON A HIGHER PLANE AND CORRECT DECISION MADE.

3. I CONCUR WITH THE GENTLEMAN WHO MADE THE STATEMENT THAT THE "DOES" MUST LOOK AT THE LONG RANGE (AND) MAKE FORWARD (DECISIONS) LOOKING INSTEAD OF LOOKING AT THE SHORT TERM POLITICAL CONCERNS AND PREJUDICES OF ONE PARTY.

4. I QUESTION THE MOTIVES OF SOME OF THE DOE MANAGEMENT IN (POLITICAL APPOINTEES) WASHINGTON IN LOOKING AT THE IMMEDIATE WORLD AND NATION AL POLITICS WITH SUCH A SHORT RANGE OF VISION AND NOT PAYING ATTENTION TO THE TECHNICAL AND ECONOMIC LOGIC THAT WOULD CALL FOR DIFFERENT DECISIONS.

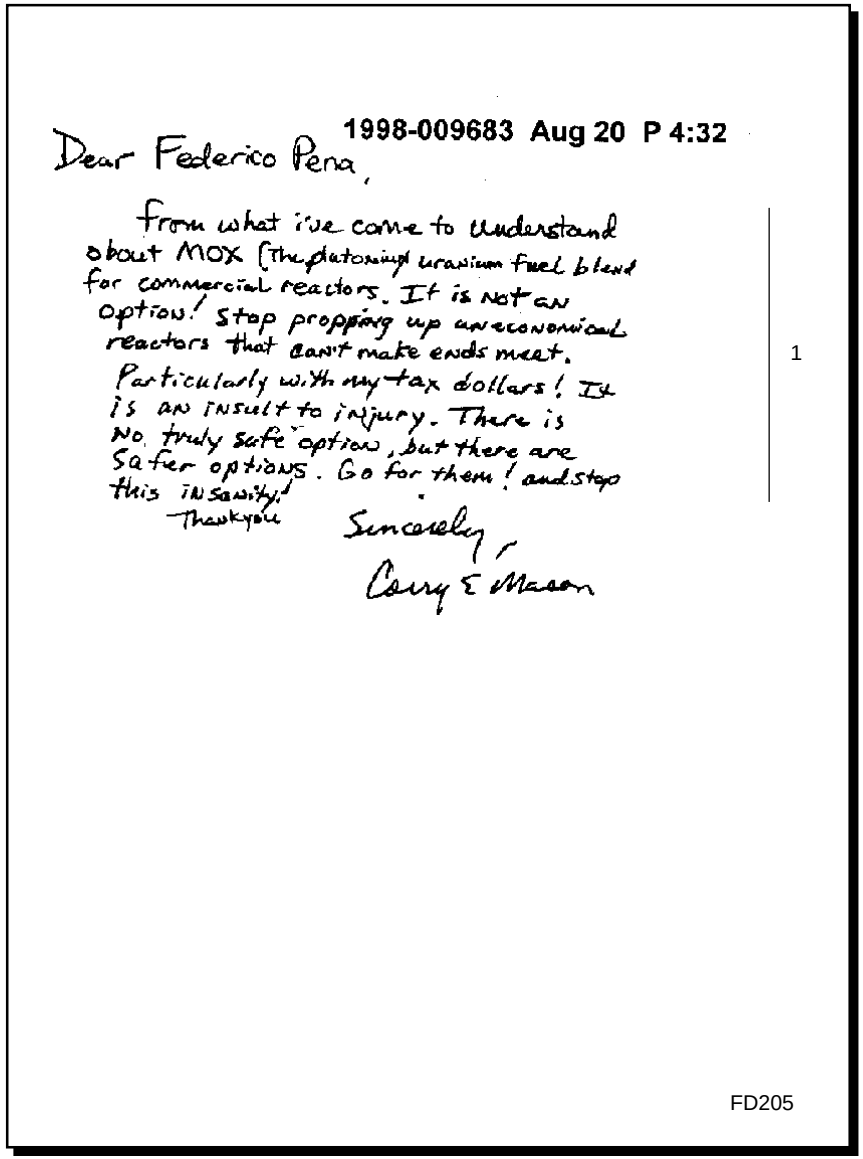
1

SCD67

SCD67–1 **DOE Policy**

As indicated in the revised Section 1.6, SRS is preferred for the proposed facilities because the site has extensive experience with plutonium processing, and these facilities complement existing missions and take advantage of existing infrastructure. Decisions on the surplus plutonium disposition program will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

MASON, CORRY E.
PAGE 1 OF 1



1998-009683 Aug 20 P 4:32

Dear Federico Pena,

from what i've come to understand about MOX (the plutonium uranium fuel blend for commercial reactors. It is NOT AN option! Stop propping up uneconomical reactors that can't make ends meet. Particularly with my tax dollars! It is AN INSULT to INJURY. There is NO truly safe option, but there are safer options. Go for them! and stop this INSANITY!

Thankyou

Sincerely,

Corry E Mason

1

FD205

FD205–1 **MOX Approach**

DOE acknowledges the commentor's opposition to the MOX approach. Use of MOX fuel in domestic, commercial reactors is not proposed in order to subsidize the commercial nuclear power industry. Rather, the purpose of this proposed action is to safely and securely disposition surplus plutonium by meeting the Spent Fuel Standard. The Spent Fuel Standard, as identified by NAS and modified by DOE, is to make the surplus weapons-usable plutonium as inaccessible and unattractive for weapons use as the much larger and growing quantity of plutonium that exists in spent nuclear fuel from commercial power reactors. The MOX facility would produce nuclear fuel that would displace LEU fuel that utilities would have otherwise purchased. If the effective value of the MOX fuel exceeds the cost of the LEU fuel that it displaced, then the contract provides that money would be paid back to the U.S. Government by DCS based on a formula included in the DCS contract. The commercial reactors selected for the MOX approach include only those reactors whose operational life is expected to last beyond the life of the surplus plutonium disposition program.

MATTHEWS, R. S.
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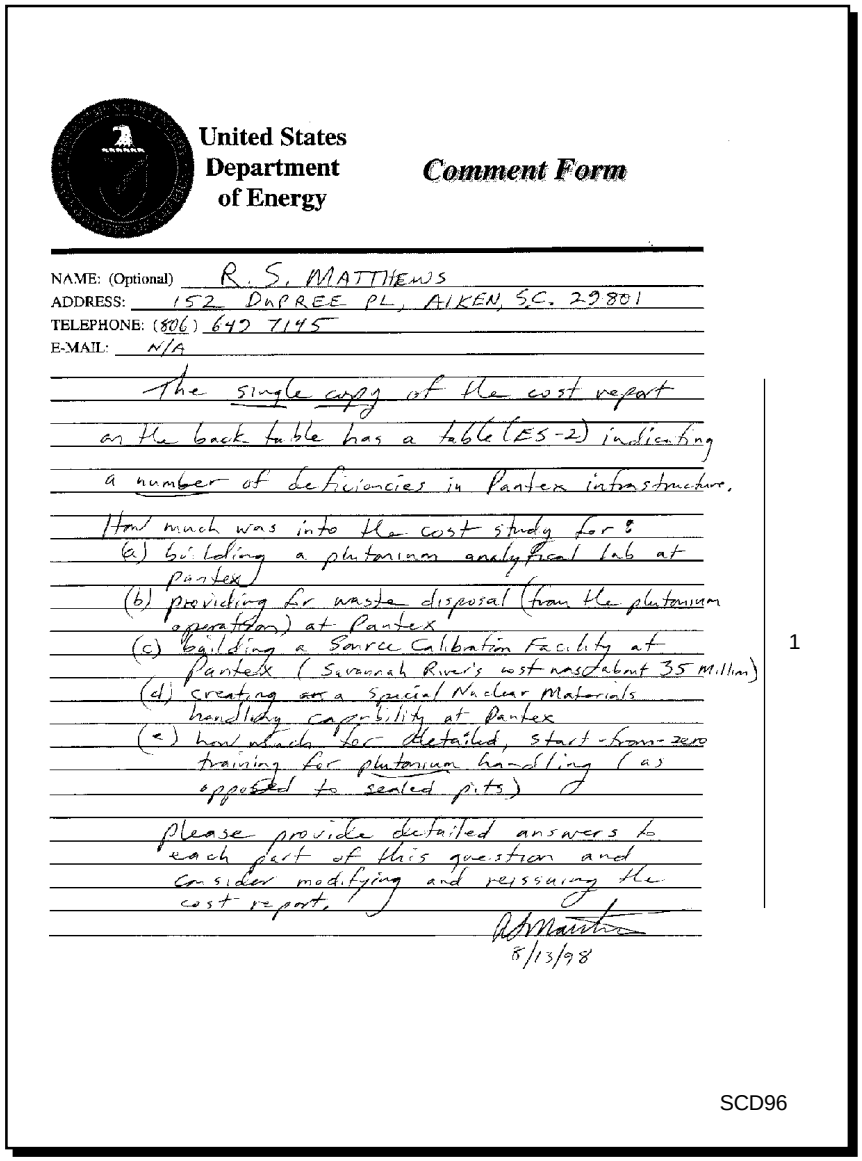

United States Department of Energy

Comment Form

NAME: (Optional) R. S. MATTHEWS
ADDRESS: 152 DUPREE PL, AIKEN, SC. 29801
TELEPHONE: (806) 642 7145
E-MAIL: N/A

The single copy of the cost report on the back table has a table (ES-2) indicating a number of deficiencies in Pantex infrastructure.

How much was into the cost study for?
(a) building a plutonium analytical lab at Pantex
(b) providing for waste disposal (from the plutonium operations) at Pantex
(c) building a Source Calibration Facility at Pantex (Savannah River's cost was about 35 Million)
(d) creating or a special Nuclear Materials handling capability at Pantex
(e) how much for detailed, start-from-zero training for plutonium handling (as opposed to sealed pits)

Please provide detailed answers to each part of this question and consider modifying and reissuing the cost report.

R S Matthews
8/13/98

1

SCD96

SCD96–1 **Cost Report**

Because this comment relates directly to the cost analysis report, it has been forwarded to the cost analysis team for consideration. The *Plutonium Disposition Life-Cycle Costs and Cost-Related Comment Resolution Document* (DOE/MD-0013, November 1999), which covers recent life-cycle cost analyses associated with the preferred alternative, is available on the MD Web site at http://www.doe-md.com and in the public reading rooms at the following locations: Hanford, INEEL, Pantex, SRS, and Washington, D.C.

MATTHEWS, R. S.
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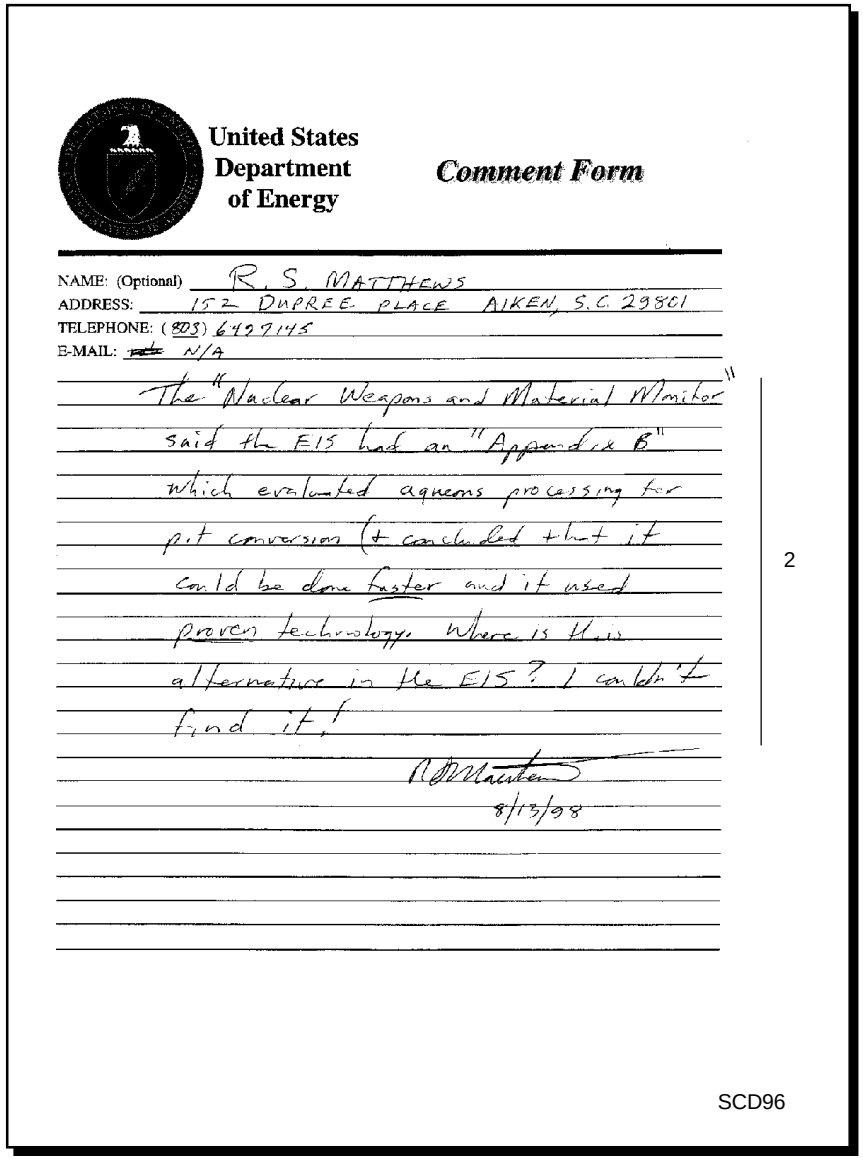

United States Department of Energy

Comment Form

NAME: (Optional) R. S. MATTHEWS
ADDRESS: 152 DUPREE PLACE AIKEN, S.C. 29801
TELEPHONE: (803) 649-7145
E-MAIL: ~~mail~~ N/A

The "Nuclear Weapons and Material Monitor" said the EIS had an "Appendix B" which evaluated aqueous processing for pit conversion & concluded that it could be done faster and it used proven technology. Where is this alternative in the EIS? I couldn't find it!

R S Matthews
8/13/98

2

SCD96

SCD96–2 Plutonium Polishing and Aqueous Processing

At the time DOE issued the SPD Draft EIS, it believed the gallium content in the plutonium dioxide feed specifications for MOX fuel could be reached using the dry, thermal gallium removal method included in the pit conversion process. However, in response to public interest on this topic and to ensure adequate NEPA review in the event that the gallium specification could not be met with the thermal process, an evaluation of the potential environmental impacts of including a small-scale aqueous process (referred to as plutonium polishing) as part of either the pit conversion or MOX facility was presented in Appendix N of the SPD Draft EIS. On the basis of public comments received on the SPD Draft EIS, and the analysis performed as part of the MOX procurement, DOE has included plutonium polishing as a component of the MOX facility to ensure adequate impurity removal from the plutonium dioxide. Appendix N was deleted from the SPD Final EIS, and the impacts discussed therein were added to the impacts sections presented for the MOX facility in Chapter 4 of Volume I. Section 2.18.3 was also revised to include the impacts associated with plutonium polishing.

MATTHEWS, SUZANNE
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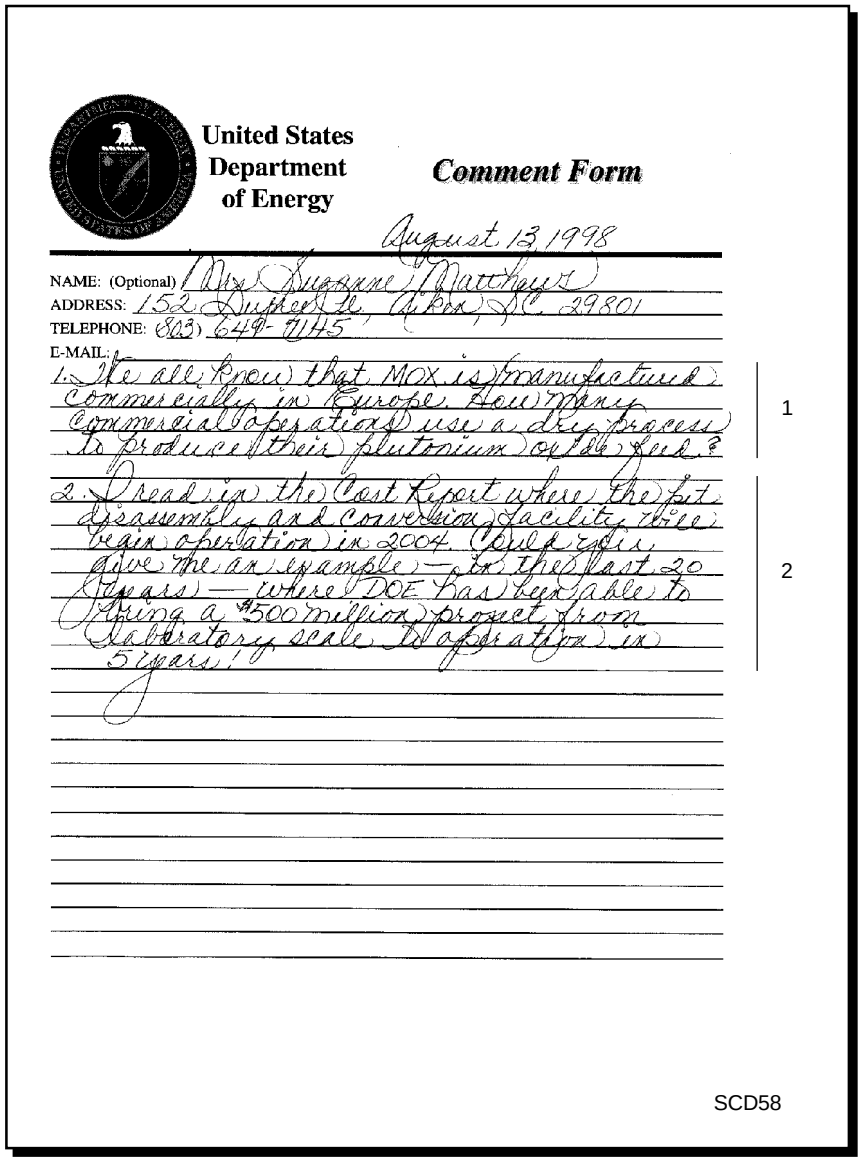

United States Department of Energy

Comment Form

August 13, 1998

NAME: (Optional) Mrs. Suzanne Matthews
ADDRESS: 152 Dupree St. (P.O. Box) SC 29801
TELEPHONE: (803) 649-7145
E-MAIL:

1. We all know that MOX is manufactured commercially in Europe. How many commercial operations use a dry process to produce this plutonium oxide fuel? 1

2. I read in the Cost Report where the pit disassembly and conversion facility will begin operation in 2004. Will you give me an example — for the last 20 years — where DOE has been able to bring a $500 million project from laboratory scale to operation in 5 years! 2

SCD58

SCD58–1 **Feedstock**

None of the commercial MOX fuel plants in Europe currently use a dry process to produce plutonium dioxide.

SCD58–2 **Pit Disassembly and Conversion**

DOE believes that beginning operations of the pit conversion facility in 2004 is a reasonable schedule. While it is true that the pit conversion facility is the first consolidated facility for accomplishing this mission on a large scale, the processes that would be used in this facility are not entirely new. Many of these processes are in use at LANL and LLNL, and each specific operation in the dry pit conversion process has been successfully demonstrated. However, to ensure successful and timely transition to full-scale operation, DOE is testing these components as an integrated system at LANL. This pit disassembly and conversion demonstration is focusing on equipment design and process development and will provide information for fine-tuning the process and operational parameters prior to pit conversion facility operation. The information from the demonstration would be generated, gathered, and be available on a continuous basis throughout the facility design phase. A copy of the *Pit Disassembly and Conversion Demonstration EA* (DOE/EA-1207, August 1998) is available on the MD Web site at http://www.doe-md.com. In addition, because the information from this demonstration would be used to supplement other information developed to support the design of a full-scale pit conversion facility, it would not be necessary for the demonstration to be completed before beginning pit conversion facility design and construction.

MCWHORTER, DON
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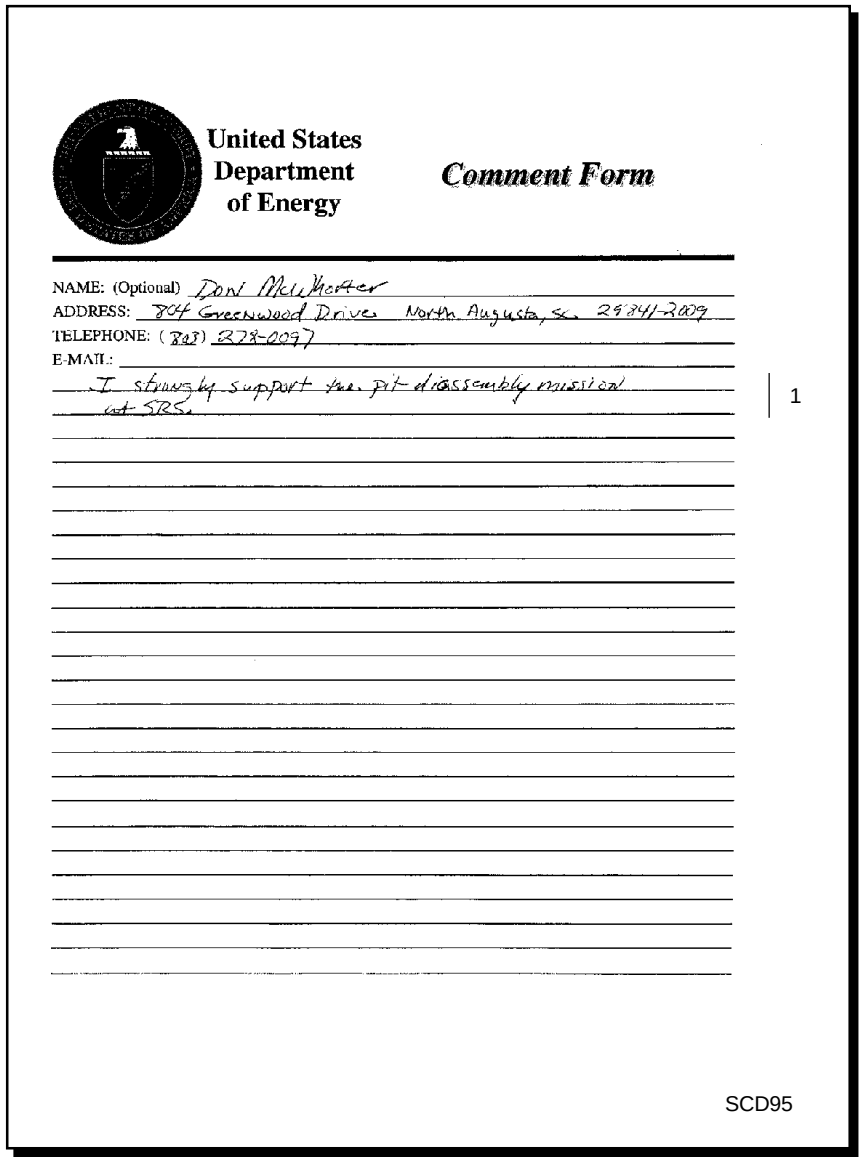

United States Department of Energy

Comment Form

NAME: (Optional) Doni McWhorter
ADDRESS: 804 Greenwood Drive North Augusta, SC. 29841-2009
TELEPHONE: (803) 278-0097
E-MAIL:
I strongly support the pit disassembly mission at SRS.

1

SCD95

SCD95–1 **Alternatives**

DOE acknowledges the commentor's support for siting the pit conversion facility at SRS. As indicated in the revised Section 1.6, SRS is preferred for the pit conversion facility because the site has extensive experience with plutonium processing, and the pit conversion facility complements existing missions and takes advantage of existing infrastructure. Decisions on the surplus plutonium disposition program at SRS will be based on environmental analyses, technical and cost reports, national policy and nonproliferation considerations, and public input. DOE will announce its decisions regarding facility siting and approach to surplus plutonium disposition in the SPD EIS ROD.

MINERD, LESLIE
PAGE 1 OF 1

9/16/98
Mr. Howard R. Canter, Director
Office of Fissile Materials Disposition
U.S. Dept. of Energy
P.O. Box 23786
Washington DC. 20026-3786

Dear Mr. Canter,

I feel that the comment period on the SPD EIS was so short for a reason. It seems that the Dept. of Energy, along with other government people, have this plan on a very fast track and don't really want to hear what the rest of the country thinks about it. 1

Turning warhead plutonium into fuel pellets to be used in aging reactors is being presented as a way to recycle and disarm at the same time. The truth is that this process will also create nuclear waste. I agree that disarming is a good idea, but there has to be other options besides the two being presented, plutonium fuel pellets and glassification. 2

It would be prudent for the Dept. of Energy to spend some more time discovering safer ways to safeguard our surplus nuclear weapons.

Sincerely,
Leslie Minerd

2716 Blossom St
Columbia SC 29205

MD285

MD285–1 **General SPD EIS and NEPA Process**

A period of 60 days was allowed for public comment on the SPD Draft EIS, and DOE accepted comments submitted by various means: public hearings, mail, a toll-free telephone and fax line, and the MD Web site. Although it did not extend the comment period, DOE did consider, to the extent possible, comments received after the close of that period.

MD285–2 **Alternatives**

DOE acknowledges the commentor's support for reducing the nuclear weapons stockpile, and opposition to using either immobilization or the MOX approach to surplus plutonium disposition. DOE has extensively studied technologies for this purpose, and in the *Storage and Disposition PEIS* identified and evaluated a number of potentially acceptable technologies. However, many of these technologies were determined to be unacceptable for reasons of complexity, the cost or time for implementation, and the degree to which the resulting form met the Spent Fuel Standard. The Spent Fuel Standard, as identified by NAS and modified by DOE, is to make the surplus weapons-usable plutonium as inaccessible and unattractive for weapons use as the much larger and growing quantity of plutonium that exists in spent nuclear fuel from commercial power reactors. Based on these analyses and other available information, the ROD for the *Storage and Disposition PEIS* reduced the number of technologies that would continue to be considered to those evaluated in this SPD EIS: immobilization in either a ceramic or glass form, and MOX fuel fabrication and irradiation. This SPD EIS evaluates the potential impacts of waste generation for each of the proposed alternatives. As described in Sections 2.18.3 and 4.28.2.8, additional spent fuel and other wastes would be produced by using MOX fuel instead of LEU fuel in domestic, commercial reactors. Spent fuel and waste management at the proposed reactor sites is not expected to change dramatically due to the substitution of MOX assemblies for some of the LEU assemblies. Likewise, the additional spent fuel would be a very small fraction of the total that would be managed at the potential geologic repository.